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(Translated from the German by George G. Kinlock, M.D., of Charleston, S. C.)

(Continued from the November Number.)

Viewed from a practical point, it is necessary to divide the "urinary tube" into an anterior and a posterior part. The anterior consists of the whole length of the "tube" as far as the *musculus compressor urethræ*, while the posterior is that portion which includes the *Pars membranacea* and the *Pars prostatica* as far as the internal sphincter, the so-called neck of the bladder.

The term "neck of the bladder" is said by many authors to be an unscientific appellation of the *Pars prostatica urethræ*, and as something not found by anatomical investigation. In reality, we do not find in an inflated and dried bladder a widening of the *Pars prostatica* comparable in appearance to the neck of a bottle, and passing immediately into the bladder, but quite the reverse, viz :

the internal sphincter closed, and in this way the *Pars prostatica urethræ* shut off from the bladder. That, in spite of this, however, the *Pars prostatica* belongs to the bladder, or *vice versa*, the *Trigonum Lieutodii* to the Prostata, shown alone by the fact that both the ridges of the Trigonum can be followed, anatomically, far into the Prostata, and moreover, that the muscular fibres lying next to the urethral mucus membrane in the *Pars prostatica* represent a continuation of the muscular structure of the bladder.

The term "neck," too, has an important practical meaning. The neck of the bladder, or the posterior division of the urethra, embraces that portion of the latter, which is situated between the external sphincter or the *musculus compressor urethræ* and the inner sphincter. The strength and the power of resistance of these two muscles are quite different. While the outer sphincter offers resistance, as well to the fluid secretion pressing from without onwards, as also to the fluid which endeavors to pass from within outwards, and while this resistance is overcome by the influence of the *will*, it is found, on the other hand, that the internal sphincter gives way before the slightest pressure, and therefore offers only a slight obstacle to either the passage of the urine from the bladder or back into the bladder from the posterior part of the urethra. The desire to urinate is due mostly to the fact that a large quantity of urine having collected in the bladder, the action of the inner sphincter is overcome and the urine then pressed into the neck. At the moment when the desire to micturate is greatest, the bladder and the neck become a common cavity, and the further progress of the urine is only hindered by the action of the *will* in keeping the external sphincter closed. The dissimilar action of these two sphincters is perceived when injections are thrown into the bladder. If we wish to force a fluid through the urethra into the bladder, without the aid of a catheter, and by means only of a hand syringe or an irrigator, we will find the greatest opposition at the *musculus compressor urethræ*, and in some cases it will be impossible to force the substance into the bladder, notwithstanding great force may be used, and, as a consequence of which, the fore-part of the urethra is painfully distended.

The difference between the two sphincters is more evident when there is a diseased condition of the posterior urethra itself. For instance, if a catarrhal secretion, blood, or some other fluid, collects in large quantities in the posterior portion of the urethra, it will never succeed in getting into the fore-part of the urethra and appear as a discharge, or stain the linen, because it would have to overcome the musculus compressor. It chooses rather the easier task, viz: to conquer the weak internal sphincter, and then pass into the bladder. For this reason we find blood going into the bladder, when a hemorrhage occurs in the prostata, staining or coloring the urine to the same extent as it would do if the hemorrhage were from the bladder itself. We observe also, not seldom, the purulent secretion from *prostatitis* poured into the bladder, and thus setting up a disease of this organ. It is also a well-known fact that as soon as gonorrhœal inflammation, in its *abnormal* course, overstrides the boundary of the *musculus compressor*, the most serious bladder symptoms are apt to arise, such as constant desire to micturate, tenesmus, etc.

From the above facts it is seen that the posterior portion of the urethra belongs more properly to the bladder than to the urethra, and that therefore the term "neck of the bladder," also, from a practical standpoint, is well-chosen. The affections of the neck of the bladder will cause the urine in the bladder to be at one time very cloudy, at another time less so, according to the amount of secretion present. If only a small amount of secretion is collected in the posterior portion of the urethra, then the urine in the bladder is uninfluenced, and if you let the patient urinate successively into two glasses, the first half only will appear cloudy, while the second remains clear. If the secretion, however, is quite a significant one, it will flow backwards into the bladder, cloud the urine to a more or less extent, and also irritate the bladder. In this case, of course, both portions of the urine passed will appear cloudy, but unlike that of a primary cystitis, the first half of the urine will be cloudier, and will also contain a large number of compact flakes, which always come from the urethra, and therefore are not seen in the second half. As a characteristic of inflammation of the neck of the bladder there is still another fact to be mentioned, viz: that in the true form (a difference between it and anterior urethritis) one is never able to detect an outflow or discharges from the penis.

The secretion from the neck of the bladder is sometimes a very copious, at other times a very spare one. It may be a mucous or a purulent secretion. If the secretion is a very limited one, it appears usually in the form of flakes or membranes; if it is copious, it clouds the urine proportionately. The catarrhal secretion is often commingled with spermatozoæ and with blood corpuscles. The admixture of the blood is especially often seen when very painful and violent tenesmus is present. In these cases, usually at the conclusion of the act of micturition, the inflamed and swollen mucous membrane, rich in blood, depleted, as it were, by the cramp-like contraction of the external sphincter. Therefore the blood corpuscles appear also in this case at the conclusion of micturition, and stain the linen in a characteristic manner.

The aetiological conditions of catarrh of the neck of the bladder are variable, but gonorrhœa has most often to do with its origin. It is often present in a light form as a result of onanism, and after excessive venereal indulgence it is sometimes observed. While in catarrh of the neck, which comes of gonorrhœa, a purulent secretion is produced, in the catarrh due to venereal excess we find only numerous flakes and an increased mucus secretion. Tuberculosis of the genito-urinary apparatus is another contingent which causes this form of catarrh, and is sometimes very difficult to diagnose. Lastly, all acute and chronic diseases originating primarily in the prostate, as well as also neoplasma, and inflammatory processes in the neck of the bladder due to stone, are efficient causes.

The changes which take place as a result of posterior urethral catarrh, and which can be made visible by means of the endoscope, are swelling, a puffing up and reddening of the mucous membrane, the latter bleeding on being only slightly irritated. Very often the superficial blood-vessels are widely dilated, and the mucous membrane in part appears to have been robbed of its epithelial covering; so that, by endoscopy, the mucous surface looks not unlike the granulating surface of a wound. At times changes are also to be distinguished in the *caput gallinaginis*, this appearing in some cases much hypertrophied.

The neck of the bladder is the part of the urinary apparatus from which most often secretion proceeds, which produces a desire to micturate. It is therefore evident that in this form of disease constant urination must be present as a characteristic of the same. If the catarrh is an acute one, then micturition is considerably increased, and there is present at the same time a good deal of pain; if, on the other hand, the process is a chronic one, the pain is reduced to an unpleasant sensation at the conclusion of the act of urination, but the frequency of the act remains. Frequent urination is so characteristic a sign of disease of the posterior urethra, that we can from this alone diagnose most constantly an affection of the neck of the bladder.

If we examine the different portions of the urinary tract in their diseased conditions so as to determine their relative importance in causing a desire to urinate, he will find that in reality, these diseases of the *neck* are most often accompanied by the constant desire to urinate. The acute kidney affections exhibit this symptom when they are complicated by a catarrh of the urinary channel, but even then only at intervals. Chronic nephritis, however, and tumors of the kidney, as well as hemorrhages from this organ, are unaccompanied by this morbid sensation. The same holds good for primary pyelitis, which in part may cause a nephritis. But in pyelitis originating from gonorrhœal inflammation, which inflammation has at the same time affected the bladder and its neck, this desire will be present. In pyelitis calculosa the feeling is experienced when the concretions pass along the tract, and lacerate the parts about the neck to a greater or less degree. If no laceration takes place, then there is no great desire for micturition on the part of the patient. Pyro and hydronephrosis are unaccompanied by this morbid feeling. In primary affections of the bladder excessive micturition is seldom noticed, especially is this true when the disease is situated in the walls of the organ or in the fundus of the bladder. If the feeling does exist it is a sign that the disease has attacked the parts in the neighborhood of the neck. A good illustration is given in cystolithiasis. If a stone lies some distance within the cavity of the bladder, as is usually the case in the recumbent position, the patient does not have a strong desire to make water; but if he stands erect or walks, the stone drops down towards the neck, and the most violent and painful micturition is the result. In like manner there is no tenesmus present in inflammation of the anterior part of the urethra, but let the gonorrhœal process overstep the *musculus compressor*, and this becomes at once a painful symptom. On the other hand, we find the most troublesome and painful tenesmus, with the different forms of prostatitis, with tumors and with tuberculosis of this region. The tenesmus can, in these cases, assume such potency that the patient, night and day, has to keep the "pot" close at hand, or be obliged, as in chronic cases, to wear some form of receptacle for the urine. Usually the pain is so great that the patient is forced to cry out, especially at the conclusion of the urinary act. It is seen from this that diseased conditions of the neck of the bladder are most often accompanied by a troublesome, and, in many cases, a very painful micturition.

Another symptom of disease of the neck of the bladder is, that at the conclusion of urination, and particularly when great pain is present, a few drops of viscid pus, or blood, or a mixture of the two, are eliminated. In purely chronic cases spermatic fluid will at times be passed, or a whitish, sand-like substance. This white sand is composed mostly of very small particles of carbonate of lime, which collect together in little masses. Examine these masses under the microscope, and we will find very often numerous pus corpuscles, which appear incrusted with the carbonate of lime.

A frequent complication of the diseased condition of this region is the reflex neuroses. They may be simply of a local nature, and limited to the urinary and the genital apparatuses, or the nervous disturbance may be of a general kind, and concern the whole nervous system. Those of a local nature are sometimes only neuroses sensibilitatis, sometimes neuroses mobilitatis, or secretory neuroses, affecting the urinary as well as the genital parts. Where the nervous system in general is affected, this is shown by a greatly increased reflex activity, or again nervous action will be lowered below the normal, and be exhibited by conditions of apathy and melancholia. Why this is the case will be understood, in a measure, when it is remembered that the prostata (neck of the bladder) is the most richly supplied with ganglia and nerves of any portion of the genito-urinary apparatus, that the *plexus hypogasticus* of the sympathetic (which by means of its plexus vesicalis in man supplies, besides the bladder, the vesiculæ seminales and the prostata), are in direct communication, through nerve filiments, as well with the sacral ganglion, as also with the *plexus pudendalis* of the sacræ.

Catarrh of the "neck" is at times accompanied by dangers in this portion of the urinary apparatus itself, which can be discovered sometimes with the finger through the rectum, and sometimes by examination with the sound through the urethra. We very often find in long-standing catarrhs of the "neck" following gonorrhœa, the lobes of the prostata irregularly formed, flattened or hollowed out, the superficial surface of the same uneven, rough and hard. At times, also, circumscribed infiltrations are felt in single lobes (chronic prostatatis.) In catarrh of the "neck," caused by onanism or venereal excesses, the whole prostata appears very often atrophied, and, indeed, to such a degree, that one is scarcely able with the examining finger to make out the contour of the single lobes. In catarrh of the "neck," following from tuberculosis, the prostata is formed at times irregularly, rough and hard; at the same time one or the other vesiculi seminales is changed into a hard cord, and at times the epididymis is swollen up, forming a large, painless and hard body. There are also catarrhs of the "neck" where one is unable to detect, by examination through the rectum, changes in the paranchyma of the prostata, and this is the case particularly if the catarrh is not too old.

By examination with the sound one finds the anterior urethra, as far as the compressor, normal, the walls of the same soft, elastic and only a little sensitive; but as soon as the sound gets into the region of the *Pars membranacea* and the *Pars prostatica*, one feels a resistance, and the sound glides with difficulty, and only under increased pressure, into the bladder, while at the same time great sensitiveness is exhibited on the part of the patient. We frequently find in these cases, and particularly in the very light catarrhs, which are the result of onanism, a cramp in the *compressor urethræ*, which has been described by a few authors as "spasmodic stricture." The spasm in the *musculus compressor* is analogous to the spasmodic contraction of the sphincter ani, when catarrhal or ulcerative processes are present in that region. It is often the case, also, that this cramp exists at the same time in the intestinal muscle and in those of the urethra, when pathological changes can only be discovered in one of these organs; or cramp may be present in the intestinal muscle, when only the urethra is affected, and *vice versa*. The reason of this is that both these regions are supplied by the same nerve filaments, namely, the *hæmorrhoidalis medius* and inferior.

Since the cramp in the *compressor urethræ* by sounding will only be safely overcome by the aid of thick metallic sounds, it is evident that one should never, in such cases, use conical or small instruments, and should always exercise great care in catheterism. Slight but constant pressure with a well rounded, thick sound, will overcome the cramp, whereas a fidgetty catheterism (if this expression be allowed), carried out by means of small instruments, will only awaken the compressor to more strenuous exertions, and one may do a great deal of damage and yet not get into the bladder.

The subjective feeling of the patient in catarrh of the "neck" concentrates itself in the perineum, different from cystitis proper, where the pain is for the most part referred to the region above the symphysis of the pubes. The patient complained at one time of a drawing-like feeling in the rectum, at another of a feeling as if there was a swelling in his perineum; then again of a burning in the urethra, and sticking sensation in the glans of the penis, while pressure with the hand upon the vertex of the bladder will be borne by the patient, causing him no pain.

In affections of the "neck," by examination of the urine one may often make a false diagnosis, viz: pyelitis, if the examination of the rest of the urinary apparatus were neglected. The urine, in such a case, has for the most part an acid reaction, it contains pus, and at times also a large quantity of albumen relative to the amount of pus. By microscopical examination the triple phosphate crystals are wanting, and the small, round, inflamed and swollen epithelia of the "neck" are not easy to diagnose from changed kidney epithelia. Since, also, with affections of the neck very often neuralgic pains are present, which can be localized in the loins, the deception is even more complete. The increased quantity of albumen in affections of the "neck" may be explained by the hindrance of the escape of the urine from the urethra. This obstruction to the flow may be caused by either an inflammatory swelling of the prostata and the surrounding parts (prostatitis and periprostatitis) or by pericystitis, and in women by a parametric exudation; also by mechanical compression brought to bear upon that portion of the bladder when the ureters open; or this may happen, also, without any infiltration of this region being discovered, when violent and painful tenesmus is present, whereby, in like manner, a hindrance to the flow of urine takes place. In these cases the accompanying albuminuria is due to the partial backing up, as it were, of the urine in the ureters towards the kidneys, being analogous to those cases of chronic retention of the urine by insufficiency of the bladder, or by great narrowing of the urethra.

This albuminuria which we find in diseases of the neck of the bladder, and particularly in acute inflammatory processes, is found at times very characteristically developed in a case of gonorrhœa which runs an abnormal course. As long as the gonorrhœa is confined to the anterior portion of the urethra, the tenesmus, as well as the albuminuria, is wanting, but as soon as the process overstrides the boundary of the compressor urethræ, these two symptoms very often appear immediately. The degree of albuminuria is in proportion to the tenesmus. If we give narcotics in such cases, and in this way get rid of the tenesmus, the albumen will disappear from the urine, or at least be diminished to a considerable degree. We find, at the same time, that during the tenesmus, in spite of the frequent acts of micturition, only a relatively small amount of urine will be produced, while, after disappearance of the same, a copious flow sets in.

The foregoing shows that there is a sympathetic albuminuria often present in diseased conditions of the neck of the bladder, together with violent tenesmus, which has nothing at all in common with pyelitis, but which will often be confounded with the latter when only the microscopical and chemical examinations of the urine are resorted to. Only when pyuria and albuminuria can be diagnosed at the same time with polyuria, and when there is no tenesmus present can we say, in doubtful cases, that we have to do with pyelitis also, or with pyelitis alone.

# CORRESPONDENCE.

## OPEN LETTER ON THE ENACTMENT OF A PENALTY CLAUSE IN OUR LAW REGULATING THE PRACTICE OF MEDICINE, ETC.

LEXINGTON, N. C., December 26, 1884.

THOMAS F. WOOD, M.D., Wilmington, N. C.:

*My Dear Doctor:*—I have read carefully over and over again your last report as Secretary of the North Carolina Board of Health, and you will allow me, as a member of that Board, even at this late day, to thank you for the very masterly manner in which you have demonstrated the Work of Medical Progress in North Carolina, and also for indicating so clearly the urgent necessities of the hour.

It has always been to me a matter of profoundest surprise to see what a small estimate North Carolina bestows upon the health and the lives of her citizens! She has made a law prohibiting the carrying of concealed weapons, and yet she allows thousands of mountebanks to scatter broadcast all over the land the *most virulent poisons* in the form of nostrums, which are far more insidious and deadly than the pistol or the dirk.

She has erected jails and scaffolds for the murderer and other criminals, and yet she permits the most arrant and ignorant quack, who is so inclined, to murder the innocent and ignorant classes of her inhabitants at pleasure. And this wholesale slaughter of which I speak is going on silently and surely every day, and has gone on for ages past, simply because the law-makers of the land only wink at it.

Yes, sir, if the spirits of the hordes of dead North Carolinians could arise from the dead and speak to us to-day, a large proportion of them would have to confess that when they came to their latter end they did not even have the *privilege of dying secundum artem*, but were forced into old Charon's boat and over the river Styx by some unscrupulous charlatan,

> "Whose pills as thick as hand-grenades flew
> And where they *fell as certainly they slew.*"

With a great many honest, respectable, but unwise persons in our State, all that is necessary to constitute a good physician is the possession of a fine horse, a pair of saddle-bags and an unlimited amount of "*cheek*" on the part of the aspirant. Brass with them means more than brains, yet, as said above, many of them are good people, excellent citizens, and should be protected by law, since they are unable, for various good reasons, to take care of themselves.

Now, under our present law any man can practice medicine in North Carolina, and large numbers of men totally ignorant of the science of medicine are actually prescribing for the helpless sick every day. Why, sir, I know a man who professes to be a graduate of one of the Baltimore schools (and I expect he is) who was sent for not long since to attend a sick child. After going through the farce of an examination, he gave the poor little thing an ordinary emetic. This emetic failing to act as speedily as the so-called doctor desired, he made the father of the child catch some house flies, and, after mashing them up with sugar, actually forced the child to swallow them, and then very complacently remarked: "Well, I guess that'll fetch him."

Another one entertains the opinion that if he can convert every case of disease with which he meets into a case of "fits," he can cure the patient! Not a great while since he was called to see a good, substantial, but ignorant old farmer, who was suffering from general dropsy, and this is what he said of that particular case: "I *gin* the old man a *powerful dose* to turn him into fits, and just stepped out into the kitchen to *git a fork to onstop a wial*, and when I come in again the old gentleman was *deceasted*."

I will mention one more, who received a letter, which I read, from Prof. Tiffany, of Baltimore, in which the Professor wrote: "You can come right along to the lectures, as preparatory study under a preceptor is not necessary." Professors of medical schools should certainly be more careful, more explicit, for this man did go on (and many others do the same) without any preparation, staid three months in Baltimore, and came back a full-fledged doctor—in his own estimation. He says he was offered a position in one of the Baltimore hospitals, and declares that he "knows as much about medicine as any man." He is as ignorant as he is conceited, yet, having a large family connection, he is doing considerable practice.

Now, then, I respectfully submit, that if our laws were sufficiently strict no such men as these could impose upon the people of North Carolina, even though aided and abetted by the professors of any medical school.

But these are by no means exceptional cases, for almost every county in the State affords a greater or less number of such pretenders, who assume all the responsibilities of the regularly educated and competent physician, with no care whatever as regards results.

While North Carolina deserves great credit for having passed a law as early as 1859 creating a Board of Medical Examiners, and while said law has already accomplished a vast deal of good by encouraging young physicians to higher attainments in medical knowledge, still the law is absolutely inadequate to meet the end desired simply because no *penalty is attached* for its infringement.

What does it amount to with these charlatans if they cannot collect fees legally, when they know that the regular, qualified physician cannot do any better unless his debtor happens to possess more than a homestead allowance? A large number of our citizens, perhaps the larger number, do not own more than a fifteen-hundred-dollar homestead; then in this particular the educated physician and the quack both stand upon the same platform. Both are helpless before the law, and know full well that if they work for this class they have to depend alone upon the honesty of those who employ them.

But the collection of debts is by no means what concerns us most. It is this: Our law-makers are the legally-constituted guardians of the people, and it is their bounden duty to protect every citizen from the impositions of these unprincipled scoundrels, by enacting such laws as the emergency demands. Doctors should not be simply persuaded, but *compelled to give every evidence of thorough qualification* before they are entrusted with the health and lives of the people. As I said before, they make laws to protect us from the murderer and the robber, by inflicting heavy penalties upon such offenders, and yet where so many more lives are at stake, they make a law which has no penalty when broken, except that fees cannot be legally collected.

Where one life is lost in North Carolina by the murderer, a thousand are lost by men who call themselves doctors.

I have practiced medicine busily for thirty years, and not a year of that time has passed in which I have not seen valuable lives sacrificed by the ignoranee of some charlatan.

I neither expect nor dessre to practice very much longer, but before I do go, I very much desire to see North Carolina pass such laws as will effectually check the encroachments of these sharks, who every day *set at defiance the law* as it now exists.

I do trust that the next Legislature will do herself the honor to enact a penalty clause by amending the present law so that this imposition upon, and slaughter of, the innocents may come to a speedy end.

Since the enactment of the North Carolina law, in 1859, many of the other States have passed laws similar in many respects, but they have gone very far ahead of us, and more directly to the point, by inflicting a penalty upon all who dare to break them. California Alabama, Kentucky, Texas, Arkansas, Georgia, Illinois, Wes

Virginia, and some others have such laws now in operation, with a penalty clause, and New York and Pennsylvania will doubtless soon follow. Must North Carolina be left as the only ground where *empiricism can flourish without let or hindrance?*

But I have said enough upon this subject—let us pass on to another. What are the prospects of the North Carolina Board of Health? What is to be hoped for and expected in its behalf from the next Legislature? I wonder if North Carolina knows that you have already spent more for her Health Board than she has done for it herself? I wonder if now, when all other States are alive upon this subject, she will still lag behind?

In view of the fact that that most terrible of scourges, the cholera, will next year most probably visit our happy land, is it too much to ask for an appropriation by which we may be enabled to stay the progress and mitigate some of the horrors of that fell destroyer? Does North Carolina expect her Board of Health to do such work as shall reflect credit upon the State and be of lasting benefit to her people, with no means to work upon? If she does, the question is, how can it be done?

Every other State has provided amply for its Board of Health; must North Carolina be in this particular the Rip-Van-Winkle of States?

I am, respectfully and fraternally yours,

R. L. PAYNE, M.D.

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FLORENCE, S. C., November 16, 1884.

DR. HENRY F. CAMPBELL, Augusta, Georgia:

*My Dear Doctor:*—I write you for information on a matter of which I have had no experience, nor do I remember to have met with the experience of any one detailed in a similar case. It is as follows: A stout, healthy-appearing woman, of one hundred and thirty pounds weight, florid complexion, light hair and grey eyes, the mother of six children—twins once—is perfectly exhausted by the act of coition to such a degree that she is on the verge of fainting, and lies exhausted for some minutes before she is able to rise, desires to be fanned and suffers with nausea. The act is not painful, but the idea, even, is repulsive, caused by the condition she is left in by it. At times she loses appetite, is nervous and sleepless, generally costive, despondent, and even irritable; menstruation irregular, has missed two or three months on two occasions, when that function was restored and went on as before; leucorrhea at times, but not constant; pain in the back generally, with occipital pain and fever irregularly; frontal headache, cold extremities and a variable appetite.

She has taken treatment directed to all of these conditions in succession, but that relief we commonly find following the treatment of the individual symptoms has failed, and what I would particularly crave your views on is the troublesome prostration accompanying and following coition.

With many thanks for any views you may favor me with,

I am yours, truly,

E. Miller, M.D.

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715 Broad Street, Augusta, Ga., December 2, 1884.

E. Miller, M.D., Florence, S. C.:

*Dear Sir*:—Your favor of recent date, detailing the history and peculiarities of an unusual and interesting case, came duly to hand. Only my constant occupation can account for my not giving earlier attention to your invitation to express any opinion I may arrive at.

There is an epigrammatically expressed opinion of some one of the mystic sages of our profession (possibly Aristotle himself)—sometimes quoted by modern writers. I will not attempt the Greek, but from it is evolved the English, that "the venereal orgasm is a brief epilepsy." I am forcibly reminded of this parable by the peculiar phenomena of your case. The prostration, exhaustion, lassitude, nausea and other sequences, indicate a profound impression upon the general nervous system, originating in the functional excitement of that portion of it presiding over the sexual system. The relations between the sexual and the general nervous system are *normally* of the most intimate and responsive character, and that there should sometimes be presented a morbid exaggeration of this influence, is only surprising because it occurs so infrequently. I cannot say that my knowledge furnishes me with any case so marked as the one you detail, but I have had revelations from patients in which slighter but analagous symptoms have been related to me as consequent upon the sexual act. I hope you will not think I am begging the question when I say that the general condition under which these phenomena occurs is one of morbidly exalted reflex excitability of the nervous centres—probably the spinal cord principally, and also, in a less degree, the brain.

In such a condition a process like the sexual act, which should principally affect and concern the nerves and centres of the sexual, but in a moderate and normal degree also the general nervous system, by excessive *polarity* of some nervous centre, is transmitted, or, more properly, the *erythiem evoked by it* is transmitted or reflected with exaggerated and morbid force to the general system, affecting the pneumogastric, controlling the heart and lungs and also the stomach, and hence the palpitation, disturbed respiration, hunger for air (requiring fanning), and lastly, the nausea which sometimes follows as one of the reflex phenomena attending or following coition. In the investigation of the case on this line I now suggest two localities for the origination and reflexion of morbid nerve-force may be suspected—that is if the question arises: Is the origin of the *morbid action* central or peripheral? For abnormal states of either kind would be competent to give rise to it. Some excitable condition of the spinal marrow or brain might exaggerate the natural and normal sensations and pervert them into morbid manifestations; on the other hand, peripheral conditions, as vaginismus, irritable and inflamed cervix uteri, or inflamed or tender ovary, might, each of them, appeal so strongly to even healthy nerve centres as to evoke morbid and exaggerated results. Of course, without personal investigation, I can do no more than suggest a line of study for the case—remedial measures really and entirely depending upon the results of such a search for the cause, I forbear to suggest any general tonics. Doubtless you have already exhausted all approved agents of this kind. Her reproductive system cannot be perfectly normal, as menstruation, as you state, is sometimes irregular. A tender and displaced ovary—when impinged upon—might, like a mashed testicle, give rise to nausea, faintness and other symptoms of reflected shock or depression.

Hoping to hear that you have come to some elucidation of the case and made progress in its relief,

I am, dear sir, very truly yours,

HENRY F. CAMPBELL, M.D.

# CONSTRICTION OF THE INTESTINE, OR INVAGINATION WITH PERITONITIS—POST-MORTEM EXAMINATION.

*Editor North Carolina Medical Journal:*

On the night of the 4th of last October I was sent for in consultation with my friend, Dr. J. E. Grimsley, to see Mr. J. P., 19 years old. Found him suffering excruciatingly in right umbilical region, below the navel, with some pain, not marked, extending over the whole abdomen; and he was vomiting freely a greenish, watery-looking fluid. His bowels were locked, his belly was slightly tympanitic, a little swelled and quite rigid, urine scanty, thirst great, tongue furred (not deeply), edges red, brown in middle, pulse 120 and compressible, temperature 102½, diaphoresis not excessive, mind clear and countenance anxious. Patient was very restless and begging lustily for relief from pain. Now, *exactly* what was the matter it was, to be sure, difficult to tell; still I think I can, in imagination, hear a host of Solons declare the thing patent enough; yet,

> "How little do they see what is,
> Who frame their hasty judgment upon that which seems."

The previous history of the case rendered the diagnosis puzzling. Dr. Grimsley said, in substance, that about three or four weeks before, and up to the time the patient was attacked with chills, he was walking about town doing pretty much what he pleased; but that his appetite was fickle, and he did not feel altogether right. September the 19th he was sufficiently well to clerk in a store, where he ate abundantly of cheese and crackers. September the 22d, 23d and 24th he had chills, and on the afternoon of the 24th Dr. Grimsley was called and discovered him with his bowels constipated, but not sore or tympanitic, tongue coated brown, some thirst, sick stomach, no appetite, urine highly colored and not much in quantity, pulse 115, temperature 102. Pulse and temperature fall in the morning, former to 95, latter to 100½, and continued rising and falling for two or three days, when he gradually improved.

On the 30th he was discharged free from fever, and, to all appearances, convalescent.

During the afternoon of October 1st I recollect that I passed by his home, on my way to see a patient, and the young man was sitting on the front porch manipulating with deft fingers the dulcet strings of a guitar, while he was, at the same time, vocally making the air melodious with,

"In the gloaming."

It seems that our unfortunate young Apollo had not only drunk deeply at the sweet fountain of Beethoven, but had also imbibed the doctrines of Epicurus ; for savory food with him was a passion : so on the 2d he ate bountifully of cake, oysters, etc., and several hours thereafter he was suddenly taken worse. Dr. Grimsley was promptly summoned, and when he arrived the patient was complaining of the following symptoms : pain, not great, in the bowels, principally on the right side, anorexia, some thirst, moderate fever, no desire for food, obstipated, but they moved once copiously after taking the usual dose of calomel and rhubarb. Dr. G. did not think his condition alarming at first, but his symptoms gradually grew more grave, and, on the 4th, I was called in, and found him in the ugly situation described in the beginning of this article. Just previous to my reaching the house Dr. Grimsley had prescribed morphia and an enema of soap and warm water ; had also administered some purgative, which he immediately vomited ; and had applied rubefacients, etc. What passed from the bowels not being satisfactory, we filled them to their fullest capacity (using Davidson's syringe) with soaped warm water impregnated with salt and asafœtida (patient being partly under chloroform), which was discharged almost unchanged in color. Obstruction, in our opinion, was evident, but the character of it was the difficulty. We quickly took the position that further medication by the rectum would not only be unwarranted, but hurtful and mischievous, and that we had better pursue the plan laid down by Flint for obstinate colic: quiet the patient and apply emollients, etc., to the bowels, and allow nature, if she would or could, to remedy the evil. We therefore gave morphia, per orem and hypodermically, to produce quietude, and ice to relieve the great thirst and intensely sick stomach, at the same time mustard and other sinapisms, together with soothing poultices, were externally applied ; afterwards pounded ice was freely placed over the abdomen. No nourishment, however bland, or stimulants, or medicines, or ice, or anything, would the stomach tolerate. We were not long in settling down to the idea of its being a case of constriction of the intestine, near the valoule bouhini (pain there was frightful), or invagination about the same point, associated with peritonitis. The case terminated fatally on the morning of the 6th.

Luckily, we were granted a post-mortem, and the character of the trouble was fully disclosed. We opened the abdomen in the usual way, two hours after death. Lymph was abundant, forming a thick coating, which extended over the the solid and hollow viscera and the parietal portion of the membrane. When the intestines crossed each other it caused them to adhere, and also agglutinated them to the abdominal walls. Large flakes of lymph (some pieces the size of two fingers) were scattered over the bowels, tegether with some traces of pus. The sac contained a good deal of turbid liquid, with flakes of lymph fioating about in it; but no fetid gas escaped when the sac was opened.

The duodenum, a portion of the descending calon and upper part of rectum were so closely agglutinated, it was with considerable difficulty that we could disentangle them. The small and greater part of large intestines were inflamed. The ileum, nine inches above the ileo-cecal valve, was bent upon itself, and firmly tied down by strong bands of lymph, causing the gut to form a knuckle or elbow; and at that point strangulation had taken place. We tied the ileum immediately above the ileo-cecal valve, and just beyond the point of constriction, and laid it open for inspection. Three inches above the valve was one of Peyer's glands, enlarged and presenting slight traces of ulceration; two inches above was another of like character, only a little more ulcerated; two inches higher was another, forming a perfeet ulcer, and two inches further upwards and immediately beyond the constriction, was another gland terribly ulcerated and perforated; the hole being large enough to admit the passage of a lady pea. As the food moved downwards from the stomach, it arrived at the point of obstruction, and could proceed no further; and, as the perforated ulcer was located just above the impediment, a portion of the contents of the intestines readily escaped into the cavity of the abdomen: therefore the fearful peritonitis was the result. The history was such an unusual one, without a necropsy, we doubt if a correct diagnosis could be made. We pronounced it a case of typhoid fever of the walking variety. I regret that we did not have the time to investigate the liver, spleen, kidneys, etc., for we love dissections, and the subject was a beautiful one. Autopsies ought to be held oftener than they are; and if we do not obtain them, the fault is not so much "in our stars as in ourselves." W. C. GALLOWAY, M.D.

Snow Hill, N. C., December 31, 1884.

# SELECTED PAPERS.

## THE PREPARATION AND THERAPEUTICS OF HYDROCHLORATE OF COCAINE.

By L. E. SAYRE, PH.G.

Recent developments connected with this comparatively new salt have excited much interest in the medical profession. Its peculiar property—one for many years sought after, yet until recently almost unknown—has been at length found to exist in this alkaloid obtained from Erythroxylon Coca, namely, that of producing local anæsthesia. By its use the surgeon can, without pain or discomfort to the patient, perform an operation which must otherwise cause great agony. It is said, however, that, while there is produced and insensibility to suffering, the sensibility to touch, in the same part, still remains.

That such a property should be discovered in a substance so apparently innocent, seems truly worthy to be considered a triumph in the chemistry and therapy of the present day.

The formula for its preparation, as given to me by Mr. M. Eisner, which is substantially that of Niemann (see "*Amer. Jour. Phar.*," 1861, p. 123) is as follows: Displace coca leaves with dilute alcohol and a small quantity of sulphuric acid. Add calcium hydrate to the percolate, neutralize with sulphuric acid, distill off the alcohol. Dissolve the residue in water, and filter; add soda bicarbonate to the filtered liquid, and wash with ether, adding a small quantity of muriatic acid. The ethereal solution will deposit the hydrochlorate of cocaine in an amorphous mass, gradually crystallizing. Purify by dissolving in water, precipitating with soda bicarbonate and washing with ether, and leave it to crystallize out of the ethereal solution.

Local narcotization was practiced long ago, of which a number of instances might be citted, but the scope of this article will admit of only a few.

Bouisson used a plaster of opium to the toe of a patient for some time, and afterwards succeeded in partially tearing away the nail without causing pain. He used belladonna ointments to relieve the pain of operation upon *fistula in ano.* Plans have been in vogue for smearing bougies, catheters, etc., with narcotic ointments while dilating, cauterizing or incising urethral strictures.

B. W. Richardson (1866) used the atomizer for rendering parts insensible, the most volatile liquids producing the best results.

H. J. Bigelow recommended the use of rhigolene spray. By these means the part to which the application was made was temporarily frozen, and thus the sensibility was almost entirely destroyed. Freezing mixtures of salt and ice were long formerly used for this purpose.

Von Anrep, the first one to apply cocaine to the eye, in 1880, used a solution containing ½ milligram to the conjunctiva. He noticed it caused temporary dilatation of the pupil, but took no note of the temporary insensibility it produced.

Dr. Isaac Ott experimented, in 1876, internally, and noticed resulting pupillary dilatation.

In order to obtain reliable information concerning this new agent, the writer has interviewed some of the leading oculists of this city, and obtained from them their experience and opinions in regard to it.

Peter D. Keyser, M.D., Professor of Ophthalmology in the Medico-Chirurgical College, and one of the Surgeons to Wills Eye Hospital, stated that his experience had been with varied operations, and that he finds it to be, as a local anæsthetic, "one of the grandest things discovered, but it does not seem to pass deeply into the tissues." In cases of strabismus there was not the least pain in grasping and cutting the conjunctiva, nor until the hook was passed under the muscle and its tendonous attachment cut.

This part of the operation was very painful. In cases of discision for soft cataract, and in removing a cretaceous capsule, it acted charmingly, but when the iris was grasped and cut there was the usual pain. In the removal of foreign bodies upon the cornea, it comes splendidly into place. The proper way of instilling it is to run a drop over the cornea, every minute, of the 4 per cent. solution, for three or four minutes, and then go ahead with the operation, for by that time the complete anæsthetic influence is attained. If the operation is a little long, the instillation is continued every few minutes during the whole time. Its influence passes off in about ten to fifteen minutes. As a whole, it is one of the most advantageous substances that has yet come into use for the purpose intended, as it will save the trouble of etherizing in many cases, and be the cause of saving time in operations as well as relieving pain in many little cases almost too light to chloroform or etherize for. With inflamed or congested eyes, more frequent instillation and longer time are required to obtain the effect.

Hypodermic injection under conjunctiva caused its anæsthetic action deeper, and relieved pain in tenotomy in strabismus operations.

The 4 per cent. solution is preferable to the weaker ones, the latter requiring longer time in proportion to their strength.

Dr. Henry S. Schell, of Wills Eye Hospital, gives me his experience, as follows:

"1. The most favorable class of cases for the use of the drug is that where a foreign body is embedded in the cornea. These cases are very numerous, are accompanied by much pain, and are often difficult to deal with, especially in children, on account of the inability of the patient to control the movements of the eye when it is approached with a spud for the purpose of removing the offending particle. As a general rule, however, in five minutes after the instillation of four four drops of 2 per cent. solution of cocaine into the conjunctival sac pain is gone, and the cornea is insensitive, so that the foreign body can be picked out without deliberation and accuracy. But this happy result is not invariable. In many cases several repetitions of the instillation, at intervals of three minutes, will be necessary before the requisite insensibility can be obtained, and in some instances the patients have asserted that the drug had no effect whatever.

"The best way to apply the solution is to insert the drops into the outer angle of the eye, the patient being in a recumbent position, or with the head well thrown back, and then to retract the eyelids so that the fluid can find free access to all parts of the conjunctival sac.

"The action of the drug is accompanied by a blanching of the surface vessels, as well as dilatation of the pupil and paresis of the accommodation. The progress of the anæsthesia may be measured by occasionally touching or scraping the conjunctiva with the point of a needle.

"2. In strabismus and cataract operations, in iridectomies, etc., it will be found necessary to use the cocaine solution more freely and of greater strength. Two drops of a 5 per cent. solution may be instilled every three minutes. After from four to eight such applications the operation may be performed. It has not yet been my good fortune to see any case where the free use of the strabismus hook, or the cutting of muscle, was unattended with pain. I have been told of a case where enucleation of the eyeballs has been performed without discomfort to the patient, by the liberal use of cocaine. This is to me very surprising.

"3. In painful diseases of the cornea this drug is of much benefit. It is especially useful in phlyctenular keratatis with great photophobia. The attenant bleharospasm is completely relieved, and the child's eyes may be examined without its screaming or struggling. In the severe cases of irido-keratitis, of constitutional origin, cocaine will relieve the intense photophobia after all other measures have failed. I have not observed, however, that the drug has any curative effect upon the morbid processes."

The following observations and conclusions are quoted in full from a communication to me under date of November 12th, from Dr. Charles A. Oliver, one of the Ophthalmic and Aural Surgeons to St. Mary's Hospital, of this city, who for some time has been making personal use of the drug, besides having access to the current literature upon the subject. He therein furnishes me with a few data of its use and value in ophthalmic practice, which he has kindly tabulated in a series of definite observations and conclusions:

"With varying quantities of three to eight drops of a 2 per cent. solution instilled into healthy eyes twice or three times, at five minute intervals, the following observations were made:

"1. Almost *ad maximum* pupillary dilatations occurred in forty-five minutes to an hour, the pupil returning to normal size in four to six hours. This length of time could not be considered as normal, as it merely represents the individual muscular *tonus* and amount of endosmosis.

"2. During the time of dilatation, the pupillary rim of the iris assumed various irregularities in outline of the same character as may be seen in the action of Duboisia and Homatropine upon the iris.

"3. At the time of instillation no more local inconvenience or pain was complained of than during the use of the solution of the neutral salts of the other mydriatics.

"4. In some instances, in a few moments following the use of the drug, there was a complaint of a saltish taste, which quickly passed away.

"5. In no instance was there the least constitutional manifestation of the drug.

"6. In every case accommodative range was lessened, but to what extent no accurate determination had been made. This came on during the pupillary dilatation, and fully returned in several hours' time.

"7. In each case there was both local analgesia and anæsthesia. Sensation of pain was lost wherever the drug had touched, and sensibility was deadened in localized areas. These evidenced by the pinching of the conjunctiva with forceps without causing any pain; whilst in some places the grasp was not felt at all, that is, when care was taken not to exert a dragging over a large area of conjunctiva.

"Conclusions:

"First. Upon account of the evanescence of pupillary dilatation and the quick return of ciliary power, the drug will be of great value in making ophthalmoscopic examinations in cases dependent upon their use.

"Second. It will be useful in cases where it is desired to introduce instruments of holding or fixation beneath the lids. Lachrymal probes coated with ointments containing the drug may be of advantage in lessening the sensibility of the passages during the maintenance of the probe in position. In fact, it may be used where any instrument of precision or of treatment is apt to cause error, inconvenience or harm by pain or sensibility.

"Third. It may be of value in annulling the pain from applications of cauterizing agents, strong astringents, etc., although it is to be remembered that the tissues may be rendered momentarily abnormal by the anæsthetic to such an extent as to prevent proper actions of the astringent or cauterizing material.

"Fourth. In diseases or injuries of the external eye, where nerves are exposed or irritated, it may be employed with much soothing benefit. Thus, in scratches of the corneal epithelium or of the conjunctiva, in superficial ulcerations or nerve irritations, it may be of inestimable good.

"Fifth. It may be of value in various surgical operations upon those parts of the eye which can be readily reached by the drug, such as the extraction of foreign bodies from the cornea and conjunctiva, slitting of canaliculi, extirpation of corneal or conjunctival tumors, etc.

"Sixth. It may be of service as a local hæmastatic in cases of operation where it is desired to follow the steps of the procedure without obstruction from clots and masses of blood, or as a remedial agent in arresting hæmorrhage from trauma or disease.

"Seventh. Judging from its action upon the iris and ciliary muscle, it may be of some importance in operations upon these structures in lessening pain and checking hæmorrhage.

"Eighth. By its use in ophthalmic surgery all of the petty annoyances from general anæsthesia may be done away with.

"Ninth. In view of the powerful effect of the drug upon the eye, more data are necessary before it can be *universally* employed as a local anæsthetic in eye-surgery."—*Amer. Jour. of Pharmacy.*

## CONSTITUTIONALITY OF LAWS REGULATING THE PRACTICE OF MEDICINE.

The matter of the regulation of the practice of medicine and surgery by legislative enactment is daily acquiring more importance and efficiency as the various acts which have been from time to time passed in the different States come to be tested and sustained by the courts.

The most recent case of this kind has been decided by Judge Green, of the Supreme Court of West Virginia, in regard to one

Dent, who sought to practise medicine in that State without the required license, which was refused him because the Board of Health did not consider that the college whence he had his diploma, the "American Medical Eclectic College of Cincinnati, Ohio," came under the word "reputable" as defined by said Board. The defendant having been found guilty in the lower court, and the court having overruled a motion for the arrest of judgment, the former took a bill of exceptions, setting forth that the act "was unconstitutional and therefore void so far as it interfered with the vested rights of the defendant in relation to the practice of medicine." In some half-dozen or more cases quoted by the court as occurring in different States of the Union, this was the point taken in every instance, and has always been overruled, and the constitutionality shown by the application of undisputed principles well settled by numerous decisions.

In view of the increasing importance of a knowledge of this subject to medical men, it will be interesting to explain more fully the ground on which such unconstitutionality is alleged. It is held that the sections defining the conditions essential to obtaining the license to practise, which are similar in the acts of the different Legislatures, are inconsistent with Article 10 of the amendments to the Constitution of the United States and to Section 1 of Article 14 of the same amendments, as well as sections in the bill of rights, which are also more or less common to the constitutions of all the States. Perhaps the strongest paragraph out of a number explaining these provisions is the following: "Every wanton and careless restraint of the subject, whether practised by a monarch, a nobility or a popular assembly, is, to a degree, a tyranny; nay, even laws themselves, whether made with or without our consent, if they regulate and constrain our conduct in matters of mere indifference, without a good end in view, are regulations destructive of liberty." But the courts have ruled that the laws regulating the practice of medicine are no violation of such principles. The Legislature of any State has a perfect right, under its general police power, to pass laws placing individuals under restraint in the exercise of any business, calling or profession, and has exercised it. In accordance with this laws have been made to license bakers and sellers of intoxicating drinks, and the practice of law has been thus regulated in every State, and the same principles apply to the regulation of the practice of medicine.

An amendment passed in 1818 to the Massachusetts Act of 1817 is analogous to Section 4 of the Registration Act of the State of Pennsylvania, requiring the faculties of the medical colleges in this State to pass upon the diploma of a graduate of a college in another State who desires to practise in Pennsylvania. The amendment to the Massachusetts Act provided that no person practising physic or surgery shall be entitled to the benefit of the law for the recovery of any debts or fees for his professional services, unless he shall, previously to rendering such services, have been licensed by the Medical Society or been graduated a doctor in medicine at Harvard University. This amendment, it was claimed, was unconstitutional, but not because it required a license of a physician before he could practise, but because, in violation of the State constitution, it conferred peculiar privileges upon the Medical Society or Harvard University. But the court in Hewitt vs. Charer, 16 Peck, 356, decided that this act was constitutional, saying: "It appears to us that the leading and sole purpose of this act was to guard the public against ignorance, negligence and carelessness in the members of one of the most useful professions." And this they treated as legitimate, as a matter of course.

In giving the opinion from which the above information is obtained, the learned Judge concluded as follows: "It seems, therefore, clear that both on reason and authority we could not do otherwise than hold that all the provisions in Section 9 and Section 15 of Chapter 93 of the Acts of 1882 are constitutional and valid, and should be enforced by all the courts." And in this the three remaining judges concurred.—*Medical News.*

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# MODERN PROGRESS IN MATERIA MEDICA AND THERAPEUTICS.

By E. R. Squibb, M.D.

(Read before the New York State Medical Association, at the First Annual Meeting, November 18, 1884.)

Twenty-five years' experience in supplying a small part of the medical profession with some of the established articles of the materia medica suggests a retrospect of what has appeared to be the progress made in the remedies used and the use of remedies in the treatment of disease.

The very large and important modern progress in the discovery and application of new remedies, and the improved views and processes of the books and journals are not to be considered here, but only the elements of that slow and substantial progress made among thas class of close observers, scattered all over the nation, who learn most and improve most on their own observations and experience—who read much, but rarely write, and are rarely seen in the medical societies, and whose progress, therefore, has to be inferred from the use of the materials they employ in the practice of their art. The number of those who are quite outside of the medical organizations, or who are simply enrolled without taking any active part, is very large indeed, and their value and influence in the profession is very great, and is generally conservative and good.

From a pretty close association with some of this class in all parts of the country, through their correspondence and a certain familiarity with their wants in the materia medica, when not prompted by the ubiquitous drummer and his wares, the following points of progress are either indicated by facts or inferred from collateral circumstances; and the points are made here, in the loose form of inference, not simply nor principally as a retrospect of the past, but as being of much more importance in the progress of the future.

That is, modern progress is taken in the sense of learning from the advancement of the near past what to work for and look for in the near future.

First. The thoughtful physician seems more and more to realize the fact that his success, as an individual, as well as the success of his profession, depends upon his real utility to the public. As the age grows more and more utilitarian, so the profession has answered and must answer to this progress. The demands of the public upon the medical profession are that disease be prevented as far as practicable; be successfully managed when it comes, and that its damages be skilfully repaired; and in proportion as these demands are rationally and successfully met, will the standing of the individual and the profession to which he belongs.

This public, though much interested in abstruse researches and ingenious speculations and theories of health and disease, is only entertained or amused by them, and the profession not only gets little substantial credit for them, but often has them turned against it in ridicule. All this is becoming better understood and realized, and the physician is looking more and more carefully, not only for knowledge, but for the means of applying it. He makes the accurate investigation of disease, but does not rest there, but tries to control the abnormal conditions found. Much less is heard of expectancy—much less of "Young Physic," than formerly. Active agencies carefully studied and skilfully used are much more common now, and the search after such agencies is even becoming hurtfully keen, so that there is danger of the opposite extreme from the former expectancy.

Instances might easily be given of individuals of no uncommon attainments or opportunities, gifted with neither the polished manners nor liberal morals which so often contribute to one kind of success, but fairly equipped with the known means of controlling disease, who, often in frontier populations, within five or ten years, show to the communities in which they work the utilitarian value of a doctor, and through him of his profession also. Success to his community means success to him and to his profession at large. And the success which begins in the actual results of his skill and labor in his community endures and increases just in proportion to its utilitarian character. Thermometers, urinometers, litmus paper, test-tubes and a few reagents, are always found in the orders of such physicians, and plain microscopes, and even sphygmographs, occasionally. Their materia medica proper is commonly simple, the articles not numerous, but effective, and rarely outside of the Pharmacopœia, and their orders for the newest and best advertised remedies are often conditional, always in very small quantities, and, as a general rule, not repeated.

Few will doubt the dependence of the profession for success upon its utility to the public, and very much of this utility must always depend upon therapeutics, and this, in turn, upon the materia medica. Hence, if there be a progress in materia medica and therapeutics, it is an improvement of the very foundation upon which the medical profession rests, and its importance in the future can hardly be over-estimated.

Another important reformation that appears to have been slowly and steadily going on in the near past is in the value of the word cure. The old idea of specific or particular diseases and specific cures seems to have undergone considerable modification for the better, not only in the intelligent portion of the people, but also in the medical profession. That diseases are all so many definite entities, for each of which there is a special cure or antidote, if it could only be discovered ; and that incurable diseases are only those for which cures have not yet been discovered, but for which they may be discovered at any time, is a doctrine which common education in the sciences is steadily bringing into a newer and truer light. Many physicians successfully treat disease, if not diseases, but very few undertake cures. Neither do intelligent persons call physicians with the unmodified idea of being cured. But they rather seek for skilled advice, and submit themselves with more or less confidence to be so controlled that they may have the best chances of speedy recovery. And when well, they are not so often, in their own language—and still more rarely in that of the physician—cured, but have simply recovered. Modern progress seems to indicate that the farther both the public and the profession get away from the old meaning of this word cure the better, for when it is properly understood in the modern light of cause and effect, much complex, indiscriminate drugging will be saved, and the dealers in cures—from corn cures to cancer cures—will have their mercantile enterprises better understood. If modern therapeutics is coming to have less and less to do with cures, in the old acceptation of the word, then materia medica is surely equally progressive, for there are probably hardly any now who believe in the possibility that any drug should cure any disease, and therefore it is doubtful now whether there be much chance left, in the profession of medicine, at least, for repetitions of the episodes of Cundurango, Missisquoi Water and mud, and Chian Turpentine. But as the doctrine of cures disappears, the utility and certainty of remedial agents become better established, so that the modern progress is attained in both directions.

Another element in the progress of the near past is a gradual and steady emancipation from the trammels of arbitrary doses of medicines. Physicians are no longer satisfied now with the doses given in the books. With increasing knowledge and broader views, they now look for effects, and the time is, perhaps, not far off when the only use of stated doses of medicines will be to know what quantity to begin with. It has come to be very commonly recognized that different persons, and even different conditions of the same person, are very differently susceptible to the action of medicines, and that within certain limits, quantities must be adjusted almost to each individual case. In three successive cases of confirmed epilepsy in adults, the number of seizures were not sensibly reduced short of 100 grains of bromide of potassium a day in one case; 160 grains in a second case, and 240 grains in the third case, and these quantities produced only moderate bromism. Had the doses of the standard books been adhered to, two out of the three cases would have been unimproved by the medicine.

There are cases wherein the ringing in the ears will be caused by 2 grains of sulphate of quinine, and there are others which require 60 grains to give this sign of saturation, and there are persons in whom different quantities are required at different times. To treat a recurring malarial fever without recognizing these facts is to fail of success, and discredit both the physician and the medicine, in a considerable number of the most difficult cases, where most credit is to be gained. Dr. William H. Van Buren, more than twenty-five years ago, emphasized this liability to be trammeled by arbitrary doses. In the treatment of consecutive syphilis he found a number of cases recovered under the use of 40 grains of iodide of potassium a day. But others were not impressed by less than 100 grains a day, while a few required 480 grains a day to give similar results. His teaching, and that of others who followed him, applying the same principle to our agents, have done much for the modern progress in this important matter of doses, for it is generally realized now among the best therapeutists that no remedy can be properly considered as having failed until it has been pushed to a physiological or a pathological effect.

There has also been a very important progress made in the knowledge obtained and applied in scrutinizing the quality of medicines, and that has resulted in the production of a better class of medicinal agents than was ever before attained. And it is of no small advantage to have learned that this close scrutiny and discrimination by individuals throughout the length and breadth of the land, is far the most effective way of checking adulteration, and the mismanagement of carelessness, ignorance and cupidity in the vending of medical supplies. Year by year more physicians realize the fact that the drummer is not their safest dependence, drum he never so wisely, and they listen to his voice and take his samples more warily, trusting rather in their own ability to judge of the agents which are so important to them and their patients.

Every year more Pharmacopœias are sold, and more physicians confine themselves mainly within its scope, and more tests and reagents are used ; and now that the Pharmacopœia has a full set of officinal test-solutions, it may be confidently expected that still more physicians and pharmacists will learn to apply them in this important interest of effective medicinal agents. All physicians who want to know it, know now that it is not the writing of papers on adulterations, nor the resolutions of societies so much as the individual knowledge, care and watchfulness of each physician for himself, that secures to him the character of his supplies. It has always been the case that good supplies could be easily obtained by proper care and scrutiny, but it has never been so easy as it is now, in consequence of the general improvement in the quality of supplies and the wider market for selection.

Moderately good and proper qualities are as plentiful and as cheap as ever, but the physician having learned that cheap supplies is poor economy, is upon his guard if he desires to be. He has also learned that high-priced supplies are not always the best, and hence his safety only in his own testing processes, and in avoiding complex remedies and forms of medicine which it is difficult or impossible to test.

Another element of progress notable within the past few years is that physicians use fewer and more active agents, and use them more simply. The time for complex prescriptions and of using several agents at the same time, seems to be passing away, and physicians do not go from one preparation to another so easily as heretofore. The using of a few definite agents, and knowing from personal observation just what they will do, is of such manifest advantage that it would be strange indeed if there was no progress here. Physicians' orders, from being long, and embracing many doubtful and indefinite articles, and many duplicates, or articles used for similar purposes, are now short and compact in the main. ten to fifteen standard medicines at a time is about all an ordinary physician wants, and this, about twice or thrice a year, keeps up a supply of not over double that number of agents in all, for common daily use. This enables him to watch the qualities better, and keep his stock fresh and in the most efficient condition.

Much progress has also been made in using more concentrated forms of medicines. Decoctions, Infusions, Vinegars and Wines have almost gone out of use, while Tinctures and Syrups are steadily falling into disuse, though not as rapidly as they deserve. These are all replaced by the far more accurate and convenient Fluid Extracts, with their small and effective doses, which can be so easily administered in so many different ways. Thus the physician and pharmacist, instead of having to keep two or three preparations of the same drug to get stale on his shelves, has to keep only one, and this the best and most accurate one.

Much has also been gained in the precision with which medicines are measured for administration, and the measuring apparatus has been much extended and much improved in accuracy, so that it is not difficult now to get fairly accurate weights and measures at a reasonable cost.

The many and great advantages in the use of the salts of a few alkaloids have led to the extreme of seeking to extract and use the active principles of drugs, instead of the preparations of the drug, in all possible cases, and there are many excellent reasons for this if it were only practicable. Unfortunately, the so-called active principles rarely represent the drug from which they are taken, either fully or fairly, and are of such variable strength that they are less trustworthy than the drug. Beside this, many of the alkaloids and nearly all the glucosides are so loose in their molecular structure, that they split up and become partially or wholly inert without change in appearance, and under circumstances that are not known. Physicians who examine most closely into the character and processes of extraction of many, if not most, of these so-called active principles, will see that they are frequently the result of the chemistry applied for their extraction, and that they do not pre-exist in the drug, and therefore can only partially represent it.

Finally, perhaps the greatest progress of all has been in the power and definiteness of the agents used, and of judging of the manner and effect of using them. Many years ago, when among the first of these very definite and powerful agents, the American Helebore, came into use for controlling the action of the heart, it was objected that its use was merely controlling a symptom of disease without going to the root of the matter at all. The pneumonia went on all the same, and perhaps the depressing action of the drug was simply added to the depressing action of the inflammation, and harm rather than good might rationally result. It took some time to show by actual experience that the drug could be given in controlling quantities without more depression than was needed in a sthenic disease, and that the lowering of the pulse rate by 15 to 20 per cent. meant the sending of 15 to 20 per cent. less inflammatory blood through an inflamed, congested and oppressed organ, whose obstructed functions were threatening life, and therefore that treating this pulse system was really treating the whole of the disease by controlling its prominent element. It was thus clearly recognizable that by subtracting one prominent element or symptom from the group which constitute a disease, the bond is broken, and it then tends to disintegration, just as when an atom or a group of atoms is subtracted from a molecule, it splits up and loses its identity and its reactions.

Then when bromide of potassium was successful in controlling the seizures of epilepsy it was objected that it merely controlled the expression of the diseased condition, without affecting that condition, since when the medicine was omitted, or was used in too small quantity, the seizures would recur. But in the progress made in the near past it has been abundantly shown that when the bromide is skilfully managed and continued through a long time, with great perseverance and care, for a sufficient length of time after the attacks have ceased, many patients are no longer in the condition which caused the attacks, and that thus in treating the principal symptom the condition causing it has also been treated successfully.

Again, in those agents which simply reduce temperature—take, for example, the use of salicylates in acute rheumatism—the effect is to control one symptom primarily, but it happens that through the close relationship of symptoms, two others of equal importance are also controlled, namely, the pain and swelling. It is maintained that the disease goes on and commonly runs its course; but it is admitted that it is occasionally cut short, and that it is almost always rendered comparatively free from high fever, pain and swelling—that heart damage is less frequent and less serious, and that relapses occur less frequently.

It is needless to multiply examples to show that great progress has been made in the acquisition of definite agents and in the knowledge of how to use them, and should the next ten or twenty years prove as fertile in the resources of the medical art as is indicated by the progress of the past, the profession will occupy a much higher position in the estimation of the public than it now does.

It should not be inferred from the above that all the prominent changes in relation to the materia medica within the past few years have been improvements, or for the good of either the profession or the public, for much doubtful medication has grown into common use among large numbers of physicians who do not seem to think where the mercantile enterprise of the manufacturer is carrying them.—*Ephemeris of Materia Medica, etc.*

# THE ACTION OF THE SULPHATE OF QUINIA ON THE BLOOD.

By Hobart A. Hare, M.D.

While it is generally agreed that quinia instantly stops the migration of the white blood-corpuscle on the stage of the microscope, it has been argued by many that the drug does not prevent its migration in the body.

For the purpose of coming to some definite conclusion in regard to what the action of the drug really was, I carried on four series of experiments, using twelve Cohnheim frogs in each series.

In order to provoke migration I used the point of a hot needle, which was applied and instantly withdrawn.

As all results would be negative unless the blood-vessels observed were of the same general size in every case, I never watched an arteriole over three millimetres in diameter, the average diameter of the vessels being in all four series two and a fraction millimetres.

In the first series I counted the migration from the vessels when there was no inflammation and no drug present. I found that in twelve frogs the migration in thirty minutes averaged twenty-nine.

In the third series, to which I gave ten grains of the quinia hypodermically, the migration averaged 1.4 in thirty minutes.

In the fourth series, where I caused inflammation and gave ten grains of quinia hypodermically, the migration did not take place at all in five of the frogs, two corpuscles migrated from two of the frogs, and from the other five only were migrated in thirty minutes, so that the average was virtually none at all.

These series would prove that the corpuscles are stopped in their migratory movements by the drug, at any rate in regard to passing through the wall of the blood-vessel.

Whether the drug does this by a direct action on the corpuscle or not, is another question.

To discover in what way the drug stopped the migration—that is, whether the corpuscle itself was influenced, or whether the blood-vessel wall was acted on—I instituted the following observations:

Causing inflammation and administering the drug, I noticed that the corpuscles stopped at the irritated point and congregated, but did not pass through the wall as they did where there was no drug, but simply inflammation present; and *this* difference existed, viz: that where inflammation was alone present the walls were dilated, and therefore thinner, but where the drug was present also the walls were contracted. This contraction could not only be seen by the eye, but was marked by the use of the eye-piece micrometer.

To cause this contraction the drug must act either on the vaso-motor system or the muscular coat of the blood-vessel wall.

In order to see if the contraction of the blood-vessels was due to centric vaso-motor stimulation, I made a section of a frog's spinal cord high up, and found the contraction was still present, and in another frog, to whom quinia was given after section was made, the contraction took place. This proves that the action is not centric. The only remaining action which it could have is on the peripheral vaso-motors or the muscular fibres in the vessel walls. According to Prof. H. C. Wood, atropia in toxic doses probably paralyzes the muscular coat. I therefore gave a frog one-sixtieth of a grain of atropia, and saw an arteriole dilate, thus proving one-sixtieth of a grain of atropia to be a toxic dose to the frog. Another frog was taken, inflammation caused, quinia given, then atropia, and the contraction caused by the quinia remained. This would seem to prove peripheral stimulation; but this is not at all tenable, for if atropia paralyzes the muscular fibres, the stimulated peripheral endings could not cause contraction.

The only explanation seems to be that the quinia acted on the fibres themselves to such an extent that it antagonized the atropia.

My observations in regard to the effect which section of the cord would have on vaso-motor contraction are directly opposed to those of Jerusalimsky, who asserts that the contraction is not present after section is made. Schroff found that in the cinchonized animal neither galvanization of a sensory nerve nor asphyxia produced contraction, claiming with Jerusalimsky that there was paralysis of the whole vaso-motor system, as I understand them. Heubach found *no* paralyzant action of this kind when he used galvanization of a sensory nerve. To prove, then, that quinia has no paralyzant action of this kind, I took a frog and strapped him to the frog-plate by placing a very strong and tense rubber band over the windpipe, and in order to prevent his using his skin as a means of respiration, I allowed it to become dry. On examining his mesentery, I found no paralysis present at all, and the arterioles evidently very much contracted, as if by the action of the stimulated vaso-motor combined with a direct action of the drug on the muscular coat. It therefore seems proven to me that the drug does not paralyze the vaso-motors either peripherally or centrally, and probably has no action on them at all, unless it be *perhaps* very slight stimulation, which I doubt, any contraction of the vessel being due to the action of the drug on the muscular coat. It seems to be decided that quinia does also decrease the heart-power, as nearly all observers agree in this respect—that is, in toxic doses.

I shall consider, therefore, proven—

1st. That the sulphate of quinia does not cause paralysis of the vaso-motors.

2d. That the contraction, when sulphate was administered during inflammation, was produced by a direct action on the muscular coat of the blood-vessel, and was independent of any vaso-motor action.

3d. That the drug does prevent the migration of the white blood corpuscle in the body, particularly when inflammation is present.

4th. That this stoppage of migration is due, not to any action on the corpuscle itself, but to the contraction of the muscular coat and the decreased heart-power. Because if you have a dilated vessel you must have a thin wall, and if you have a strong heart you have both the *vis a tergo* of the circulation and also the decreased resistance of the wall in so thin a state, and consequently the corpuscles migrate readily.

If you give a drug which causes both decrease in that heart-power and contraction of that inflamed blood-vessel, you no longer have that *vis a tergo* so strong, nor the doors of migration so wide open. Briquet, A. Eulenberg and Schlobkow have all shown that large doses of quinia depress the heart and cause its stoppage in diastole. In two frogs' hearts which I immersed in a solution of quinia I also got stoppage in a very short time in diastole. It seems rather difficult to reconcile the two facts that quinia should have such a depressant action on the heart-muscle, which, though striated, is virtually involuntary, and yet seem to have a stimulative action on the non-striated muscular fibres in the blood-vessel walls. No explanation can be offered of this other than there being some depressing action on the heart's contained ganglia.

Bonour, Arvedi, Baldwin, Meher, Monneret and Magendie, state that the blood after death from toxic doses of quinia is dark, defibrinated and non-coagulable. Briquet, on the other hand, states that it is not as the others state, but just the contrary.

Taking three rabbits, I gave them three different doses respectively, as follows: to the first, one hundred and twenty grains, hypodermically; to the second, one hundred grains; and to the third, seventy-five grains.

In every case the blood clotted very rapidly and firmly in the vessel it was caught in, and there was a clot in the soft, flabby heart.

It may be well to state that the temperature of the surrounding atmosphere during the observation of the frog's mesentery was never allowed to vary more than five degrees Fahrenheit. The observations were always made at the same time of day, and the frog was thrown away after his mesentery had been exposed thirty minutes, as diapedesis was set up after that time by the abnormal exposure of the parts. The water used to keep the mesentery clean was of uniform temperature also. The rabbits were young and healthy, and were kept in a room of good size, with plenty of food, light and air.—*Med. Times.*

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BIGELO[illegible] [illegible]D OF RELIEVING ASPHYXIA FROM BLOOD IN THE TRA[illegible] [illegible] [illegible]elated by Dr. Beach, is to quickly pass an elastic catheter [illegible] [illegible] tracheal wound, down the trachea, beyond the obstructi[illegible] [illegible] through forcibly inflating, thus dislodging the clot.—*N*[illegible] [illegible]*al.*

# MANSON ON LIVER-ABSCESS.

By John D. Malcolm.

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In the Medical Reports of the Chinese Imperial Maritime Customs for the half-year ending September 30, 1883, is an instructive paper on liver-abscess. Its author, Dr. Patrick Manson, remarking that not many years ago recovery from this disease was so rare that to tell a man he had an abscess in his liver was tantamount to telling him he must die, proceeds to show that it is quite otherwise in our day; that, since the introduction of the aspirator, the drainage-tube, and Listerism, there is no reason whatever why an abscess in the liver should not be successfully treated in exactly the same way as an abscess anywhere else—i. e., by early and free discharge of its contents. Early treatment needs early diagnosis, and the great secret of successfully diagnosing abscess of the liver is (according to Dr. Manson) to "suspect" it; for, although in a few instances the symptoms may be urgent and unmistakable, in the great majority they are highly ambiguous. Hence, when a patient is seen "who has been out of health for some weeks or months, whose range of temperature is from 100° to 102°, or a little over or under, in the evening, whose liver is perhaps only slightly, but still decidedly enlarged, and whose symptoms will not yield to remedies; if this patient have been resident for some time in a hot country, then, no matter how little urgency there may be about his general condition, liver-abscess ought to be suspected;" frequent examinations should be made, and the history and course of the disease carefully considered from this point of view. If he come to the conclusion that the patient is "suffering from hepatitis, and that this may have gone on to abscess," nothing should tempt the surgeon to delay making a positive diagnosis; and if matter be found, evacuating the pus and securing proper drainage and an aseptic condition. A positive diagnosis is made by means of the aspirator; and to evacuate the pus, if found, the following apparatus is necessary:

1. A trocar and cannula; the cannula four inches long and three-eighths of an inch in diameter, and provided with rings to facilitate its withdrawal.

2. A steel stilette, eighteen inches long and one-eighth of an inch in diameter, with an eye at one end.

3. Eight or ten inches of stout rubber drainage-tubing, with a bore of at least one-fourth of an inch, and outside circumference considerably greater than that of the cannula.

4. A silver "cap," small enough to go through the cannula, and with a neck into which the stilette fits loosely, and on to which the drainage-tube can be firmly secured.

5. A Listerian dressing, with a silver tube passed through it, and flush with its under or skin side. This tube must be about two inches long, and its diameter must just admit the drainage-tube.

6. Six feet of rubber-tubing, with a bore fitting on to the short silver tube.

The last piece of tubing is filled with carbolic lotion, and clips are put on the ends. One end of the drainage-tube has for two or three inches large holes cut in it, and is secured to the neck of the cap. The end of the stilette without the eye is then passed through the drainage-tube into the neck of the cap, and the tube is stretched till its diameter is less than the bore of the cannula, and fixed thus by a piece of silk passed through the eye of the stilette. The apparatus, bandages, etc., are then brought to the side of the patient; and when he is anæsthetised, the presence or absence of pus is determined by means of the aspirator, which can scarcely be used too early, as (according to Manson) acupuncture has a beneficial effect on hepatitis, and may cure it. The aspirator is therefore to be freely used, and the liver punctured in various directions; and, if pus be found, a mental note is made of its position, and the needle withdrawn; an incision is then made through the skin, and the trocar and cannula are driven in the direction of the pus till the cavity is reached. The trocar is then withdrawn, and, when the pus ceases to flow, the drainage-tube and cap are introduced through the cannula on the stilette, and the cap is held gently against the far side of the abscess while the cannula is withdrawn. The tissues grasp the tube and prevent any flow of pus. The silk which keeps the tube on the stretch is then cut, and the tube expanding presses firmly on the tissues and effectually prevents all passage of pus except through its lumen. The stilette is withdrawn, and the cap remains in till the drainage-tube is changed. The drainage-tube is passed through the silver tube in the dressing, and the latter is carefully secured so as to prevent kinking of the tube. The long tube is then fixed over the drainage and silver tubes, the free end is placed in a bottle containing some antiseptic fluid, the clips are removed, and a continuous drain secured. If all goes well, the dressings need not be changed for a week, when the tube can be easily changed, and when inflammatory adhesions will have shut off the sac of the peritoneum. When discharge becomes insignificant, the long tube is dispensed with, an ordinary Listerian dressing is applied, and the drainage-tube is gradually shortened, care being taken that the sinus heals from the bottom.

Some of the advantages claimed for this method are its bloodlessness, its applicability to very deep as well as superficial abscesses, and chiefly that it is unnecessary that adhesions should have formed between the surfaces of the peritoneum, and it can thus be used early. The most important objections are the difficulty in keeping the dressings in position and the necessity for special apparatus. These can both be overcome by a little ingenuity, though for a deep liver-abscess the specially made apparatus is "desirable." Dr. Manson gives notes of two cases, in one of which he seems to have averted the formation of abscess by exploring with the aspirator; in the other he was not allowed to operate till the abscess-cavity had a capacity, he estimates, of about 30 ounces, and from it 20 ounces flowed at once on its being opened. This case became complicated with biliary fistula, and, three months after the operation, the daily discharge consisted of about 3 ounces of muco-pus and 30 ounces of bile; and, as the patient was progressively emaciating, though otherwise well, he was on the eve of departure to America to try the effect of change of air. In connection with this case are two interesting tables, showing the daily and hourly discharge of bile in relation to the amount of urine. Dr. Manson concludes that the rate of secretion of bile is "very irregular, and has no apparent relation to the hours of eating." Of course the untoward result in this case was in nowise due to the method; on the contrary, the obstinacy or fear of the patient prevented his having its chief advantage—early evacuation of the pus. The apprehension of the principle of Dr. Manson's method is greatly facilitated by a few very clear diagrams and minute details of the means employed to secure asepsis are given. His paper should be carefully studied by all who are likely to practise surgery in hot climates, for Manson's is a great improvement on the waiting system hitherto very generally advocated.—*London Medical Record.*

# EDITORIAL.

## THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## MARCELLUS WHITEHEAD, M.D.

The North Carolina profession has not been called to mourn the loss of such a valuable member for many years, if ever. For more than twenty-five years Dr. Whitehead has been the central figure in the group of our most exalted physicians. He was a leader in the State Medical Society, in the State Board of Medical Examiners, and in all the public and private duties which fell to his lot. At the time of his death he was President of the North Carolina Board of Health, a position he filled much against his will, because of the slight interest which the State took in that body.

All along down from 1852 Dr. Whitehead's work in and for the State Society and its medical and public health auxiliaries has been marked by a steadiness of purpose and a clear conception of the future, even until the period when his declining health permitted him only to lend his presence as a visiting member at the Asheville meeting in 1878.

Dr. Whitehead was eminently a practical physician; he seemed to scorn every show of pedantry, and never could be made a servile follower of the newest fashions in medicine or surgery. Not that he did not have respect for authority, but because in medicine and surgery he was a peer of many authorities. His knowledge was of the sort that had been worked out at the bed-side, by one who had laid an ample foundation for observation.

At the bed-side his manner begot confidence. He was a keen observer of human nature, and early learned the mastery of children, women and men—at the bed-side, because he was self-possessed, gentle and cheerful—in public, because he was honest and decided. It was in public meetings of medical men that he evinced the greatest ability. His manner in debate was that of a practiced dialectician, and his commanding presence added a charm to his language.

Dr. Whitehead was warmly interested in every young man who showed any indication of talent, and he rarely mistook his man. The Medical Society of North Carolina is largely indebted to him for the discriminating judgment he showed through all his career in giving his influence to the right men. His unselfishness was truly remarkable in this respect. He persistently preferred others to himself, until his friends, impatient with his steadfast refusal to accept position, would listen to his objections no longer, so that it was only in 1873 that he attained the Presidency of the State Society.

In a life so full of good professional work it is difficult to say what was his crowning effort. But the one which he had very near at heart was the foundation of the Western Asylum for the Insane, at Morganton. To his efforts is largely due not only the establishment of this Asylum, but finally its organization. In this service to his State his every act was purely for the interest of the people, and especially for that portion of the poor unfortunate insane, towards whom his heart yearned with such tender solicitude. At last, when the time came for him to seek to fill the offices of the Asylum, his share in the work, upleasant in the extreme, was borne with a manly determination to forget all personal affiliations, even though it was to go by his oldest friends in order that he might secure the services of the best men.

Dr. Whitehead's services in securing the foundation of the Western Asylum should be held in grateful memory by the State, and no time should be lost in erecting in the grounds of this palatial building some enduring monument to his name.

We leave to an abler pen the duty of putting on record the life-work of this preëminent North Carolinian.

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## THE VIRGINIA BOARD OF MEDICAL EXAMINERS.

We are indebted to the *Atlantic Journal of Medicine* for the following information about the newly elected Board of Examiners:

*For the State at Large*—Dr. F. D. Cunningham, Richmond; Dr. W. C. Dabney, of Charlottesville.

*First Congressional District*—Drs. W. S. Carmichael, O. B. Finney, W. W. Douglass.

*Second Congressional District*—Drs. T. B. Ward, L. Lankford, Jesse H. Peck.

*Third Congressional District*—Drs. R. Lewis, C. R. Cullen, O. A. Crenshaw.

*Fourth Congressional District*—Drs. Hugh Stockdell, J. H. Claiborne, W. J. Harris.

*Fifth Congressional District*—Drs. R. W. Martin, W. L. Robinson, T. B. Grear.

*Sixth Congressional District*—Drs. H. G. Latham, H. Black, O. Wiley.

*Seventh Congressional District*—Drs. W. P. McGuire, J. H. Neff, H. T. Nelson.

*Eighth Congressional District*—Drs. A. A. Harris, C. C. Conway, B. Brown.

*Ninth Congressional District*—Drs. S. W. Dickinson, R. E. Moore, R. D. Huffard.

*Tenth Congressional District*—Drs. G. D. Merriwether, Z. G Walker, H. Patterson.

The following gentlemen were elected officers:

*President*—Dr. W. C. Dabney, of Charlottesville.

*Vice-President*—Dr. F. D. Cunningham, of Richmond.

*Secretary and Treasurer*—Hugh T. Nelson, Charlottesville.

## CUCAIN, OR COCAIN, OR ERYTHROXYLIN HYDROCHLORATE.

The *British Medical Journal*, in a recent number, adopts the spelling Cucain, for the same reason as that suggested by the *Scientific American* three or four years ago, to avoid confusion by reason of the similarity of the words *Coca* and *Cacao*. We would be willing to accept the suggestion already made by Dr. Samuel R. Percy, who experimented with this drug and reported on it to the New York Academy of Medicine, November 4, 1857, and adopted the name Erythroxylin. It would avoid confusion, and at the same time comply with the custom in the scientific world, to accept the first name put in print when two are given for the same thing.

Sir R. Christison first suggested *Cuca*, as being in conformity with the native pronunciation.

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## ELIGIBILITY TO MEMBERSHIP IN THE NORTH CAROLINA BOARD OF HEALTH.

We are in receipt of several communications asking what is meant by eligibility to membership in the State Medical Society. It is simply this: The person claiming this eligibility must either have been engaged in the practice of medicine prior to April, 1859, or must have received the license of the Board of Medical Examiners. It is not obligatory that the person should be actually a member of the State Society, but that he should have the legal qualifications for admission.

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## PRIZE ESSAY.

Dr. R. Lee Payne, of Lexington, N. C., offers a prize of a $50 surgical case for the best essay presented to the Medical Society of North Carolina by any member of that body.

## REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES.

Messrs. Wm. Wood & Co., of New York, will publish soon a series of volumes on Anatomy, Embryology, Histology, Physiology, Physiological and Pathological Chemistry, Pathological Anatomy, Climatology and Medical Botany. Also volumes on the more directly practical subjects: General Pathology and Therapeutics, Surgery, Gynæcology, Neurology, Otology, Ophthalmology, Obstetrics, etc., etc.

It will be in eight splendid Imperial 8vo. volumes, thoroughly well illustrated, of about 800 pages each. Price in muslin $6.00 a volume.

## REVIEWS AND BOOK NOTICES.

THERAPEUTICS OF THE RESPIRATORY PASSAGES. By PROSSER JAMES, M.D., etc., etc. Wm. Wood & Co., 56 & 58 La Fayette Place, New York.

This is the November number, 1884, of Wood's Library, and but little can be judged of it by its title. The author says that his book is not intended as a manual for students, but it seems to be a most excellent one for physicians some time experienced in the art of therapeutics. Much of the volume, though, is quite elementary, especially that part devoted to nutrition, food, diet and aids to digestion, although it is written clearly and to the point.

The chapter on *Alcohol* is written with good judgment and just discrimination, and may be safely taken as the true estimate in which this drug of wonderful vicissitudes is now held. The author lays especial stress upon the necessity of always giving alcoholics with food. He condemns "the too common recommendation to employ whiskey or brandy" to be given with cod-liver oil; "from one to three tablespoonsful of these spirits is often recommended with a dose of the oil, a method of using alcohol which has nothing in its favor. The dose of alcohol with cod-liver oil should be small, and ether is very much better than alcohol." This latter statement is made upon the physiological ground that its administration, as shown by Bernard, causes turgescence of the pancreas, and pancreatic juice flows more freely, and without alteration; hence cod-liver oil, given in combination with ether, is more likely to be emulsified, and to be taken up by the stimulated glands of the duodenum.

The testimony adduced in favor of the hypophosphites is not reassuring. He thinks "little benefit can be anticipated from them in bronchitis, emphysema, or pneumonic phthisis. They may be regarded as nutrients, or at any rate as substances which perhaps stimulate nutrition; when they thus act they promote digestion and increase appetite, and in such cases of course are beneficial; whenever they impair the appetite they will to that extent only be injurious."

The discussion of mercury shows how far back the pendulum of therapeutics has vibrated to a point opposite to that it attained twenty years ago. It must give some of the seniors grim satisfaction to note the admission that mercurials have a decided influence over newly-formed or ill-organized tissues, because in some way they check the growth of young cells. Would not the old way of saying that mercury causes a resolution of inflammatory product be as satisfactory? At any rate, here we are again back to a mile-stone at which the veteran antiphlogistic practitioner and the callow physiological therapeutist meet as friends.

We are disappointed not to find some substantial observations offered upon the therapeutic position of quebracho. Altogether, it is one of the most remarkable drugs which has been added to our list in many years, and its beneficent action in so many cases of dyspnœa from entirely different causes, makes it a subject worthy of serious study. Clinically, there is no doubt that it causes expectoration, promotes æration of the blood, and sustains the action of the heart, and even permits the administration of opium as in angina pectoris, in full doses, by reason of its antagonistic influence on that rather questionable drug.

A MANUAL OF THE MEDICAL BOTANY OF NORTH AMERICA. By LAURENCE JOHNSON, A.M., MD. New York: Wm. Wood & Co., 1884.

We believe this is the first attempt since Bigelow's (1817–1821) and Barton's (1817–1818) works on medical botany appeared, to present to the medical public a volume on American medicinal plants. Dr. Johnson felt the need of a volume on the subject which he might put in the hands of the students to whom he lectured, and the experience acquired by him as a teacher led him to undertake the task himself. The author was well prepared for his work by his knowledge of field botany, and fortunately was also possessed of the accomplishment of an artist, and not only wrote the text, but furnished the colored illustrations (of which there are nine) and many of the wood-cuts.

The examples selected for colored illustrations are *Podophyllum peltatum*, *Liriodendron tulipifera*, *Sanguinaria Canadensis*, *Geranium maculatum*, *Viburnum prunifolium*, *Gelsemium Sempervirens*, *Cypripedium pubescens*, *Aspidium marginale*. They are in chromo-lithography, and are exceptionally well rendered, the black-haw and yellow jessamin being the most successful, the latter giving the first example of the fruiting plant, printed in colors, we have seen.

The first fifty-five pages are devoted to elementary botany, describing the "life-history of the plant from its germination to reproduction, explaining the technical terms commonly employed in botanical descriptions and the plan of classification in general use at the present day;" also a glossary. The description of plants begins with the phænogams, and ends with the cryptogams in the usual order. The wood-cut illustrations in a few instances are blemished by poor press work, but the drawings show the skilled hand of a master.

In therapeutics Dr. Johnson is sound. His enthusiasm as a botanist does not lead him into the error of our older writers, of having a good medicinal reputation to make for every favorite plant. He divests himself of all traditional leaning and states the facts, and so the reader who has long trusted statements of writers less skilled in a knowledge of medicinal plants, will be somewhat surprised at the very small number of them which are really important. For instance, he says of the medical properties of *Cornus Florida*: "Dogwood is a tonic, astringent, and slightly aromatic. It is believed to be the best indigenous substitute for cinchona bark, and in early days was used with considerable success in the treatment of miasmatic fevers. As a mild tonic in convalescence, in simple loss of appetite and in debility of the digestive organs, it is also said to act favorably."

We must take issue with Dr. Johnson in what he has to say about the medical properties of Rhamnus Purshiana; if his condemnation of the drug is founded upon practical observation, he has been deceived in the quality of that furnished him.

We notice a very interesting item which deserves more extended observation, in reference to the harmfulness of coumarin as used by smokers in the form of the dried leaves of dog-tongue (*Liatris odoratissima*). From personal experience and observation Dr. Johnson is convinced that the deleterious effects of smoking tobacco adulterated with leaves of dog-tongue is greater than that from tobacco used in great excess. "The inhalation of a few whiffs of smoke from a cigarette made of this adulterated material, provided the inhalations are made in quick succession, produces a train of cerebral sensations of an intoxicating character as much different from any effect of tobacco alone as could be imagined; and prolonged use of such cigarettes invariably produces great derangement of the digestive organs, very little resembling the dyspepsia produced by excessive use of tobacco, together with cardiac symptoms of a distressing character." Dr. Johnson believes that the habit of smoking coumarin in this form appears to become more inveterate and more exacting than the use of tobacco alone.

If there is any virtue in a well-prepared manual as a stimulus to the study of medical botany, this one ought to have some effect on the profession.

We would like to suggest to the author the elaboration of his treatise into the complete volume it might be made, and we trust he will be induced to work on with this object in view; American students would then have a medical botany fully up to the requirements of our progressive profession.

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## OBITUARY.

### Dr. M. Whitehead

Died, at his home in Salisbury, North Carolina, January 2, 1885, Had he lived until the 27th of the month he would have attained the age of 64 years.

Dr. Whitehead was born in Nelson county, Virginia. He was one of five or six brothers, all of whom became men of distinction in their different callings. Dr. Whitehead had not in early life the advantages of what is called a classical education ; but being of an earnest, acquisitive and receptive turn of mind, he absorbed knowledge with great ease and accuracy. He commenced the study of medicine in the office of Dr. Warner Jones, a country physician of noted skill and ability in that locality. After pursuing his studies here for a year, he went to Richmond to attend lectures, and became resident assistant in the Almshouse while yet pursuing his medical studies in the College. He graduated from the College in Richmond in 1844, and remained in the Almshouse until early in 1845. In the late spring or early summer of that year he set out on horseback to seek a location, having no definite plans as to what place he would make his home, and arrived in Salisbury early in June of that year to rest a day or two before going further South. He made up his mind, however, to stop, and here to commence the work of his life. He soon gained friends. Practice quickly followed, and his busy professional life was begun. In January, 1846, he formed a partnership in the practice with Dr. J. J. Summerell, which lasted four years and a half. In February he visited his native State, and early in the spring he returned with his young wife (neé Virginia Coleman), who has shared his trials and successes all these years, has been a support and comfort to him in his onward and upward progress in his profession, and now remains to mourn the loss of a life-long kind and considerate husband.

Dr. Whitehead, from his industry and skill, early secured the confidence of the community. Never ceasing to pursue his studies, as opportunity presented, he was soon recognized as a growing man in the profession. His genial manners and sprightly conversation won for him many admirers, and his clientage increased until he had all the practice that he could do.

Thus passed his busy life—knowing little respite, until by failing health he was forced to spend the heated season of the last few years in the mountains and health resorts of our State, whence he always returned with renewed strength and energy, to buckle on again his professional armor. Industry and activity, both of mind and body, were the laws of his being. His intellect was quick, his memory retentive. He rarely forgot anything he ever learned, and had the happy faculty of calling up from his extensive reading the experience and wisdom of the best authors, whose works he kept ready at hand for daily reference and study. He loved his profession, and was well equipped at every point—full of expedients for the relief of the sick, and his therapeutic resources were ample and varied. He always studied his cases thoroughly. Toward his professional brethren he was always kind and conciliatory ; and when differing from others in his views of a case, his dissent he always expressed in words of courtesy and respect. Hence he ever lived on good terms with his brother doctors, and his counsel was sought often and generously extended. While able always to give a good reason for his opinions, he was ever ready to listen with close attention to those who held different views.

Such was Dr. Whitehead in his relations to the profession. He achieved a high standing in the fraternity wherever known, and was for years regarded as among the most accomplished doctors in the State of his adoption. He was an earnest worker for the good of the profession in North Carolina—was for many years a member of the State Medical Society, and he made it his business to attend the meetings when at all possible. He sometimes wrote papers to read at our meeting, but never suffered any of them to be published, much to the regret of his friends. He was fond of discussion, and participated freely in the debates of the Society, and was listened to with earnest and respectful attention. He was elected President of the Society, and made an excellent presiding officer. His address to the Society on leaving the chair was a well-considered paper on Pott's disease, and many of those who heard it will remember how well he delivered it. He was an earnest supporter of the NORTH CAROLINA MEDICAL JOURNAL, and though never a contributor, he was always a subscriber and lover of it. The only public trust Dr. Whitehead ever held was that of one of the commissioners to build and locate the Western North Carolina Insane Asylum. He entered on that work with great enthusiasm and energy. It was located near the town of Morganton, and there, on an eminence on the left side of the railroad going west, the beautiful architectural pile of this great Institution stands to attest the liberality of the Legislature and wisdom and taste of the commissioners. Dr. Whitehead was afterwards one of the Directors of the Asylum, and only resigned when, by infirmity, he could no longer attend the meetings of the Board, whose President he was at the time of his resignation. He loved to speak of the part he took in the building and organization of this Institution for the benefit of the insane of the State, for which he bespoke a foremost place among such charities of the South.

LIBRARY

He has gone to his rest, but his name will long be cherished in this community as that of an able and indefatigable laborer in the practice, and by many of his old patients, still living, he will be remembered as one whose place in the family as medical adviser can never be filled. He was a kind husband and father, and his great aim was to secure for his sons the benefits of a thorough education, having often expressed regrets that his own early advantages in tha regard had been less than he could have wished. His son, Dr. John Whitehead, lives to take the place of his honored father in this little city, and well and deep has he laid the foundation on which to build a splendid reputation. The good name and fame of the father could not be entrusted to better hands to be perpetuated.

Like many other distinguished physicians, Dr. Whitehead died poor in this world's goods, but it can truly be said of him that he died rich in the affections of the people among whom he labored. His funeral took place from the largest church in Salisbury on the first Sabbath morning of the New Year, and although the trees and houses were draped in ice, and the streets were as smooth as glass, and the whole atmosphere shrouded in gloom, all who sought could not gain admittance into the building. Many lingered about the doors and vestibule, to catch a last glimpse of him whom they so much loved, and who had been their physician for nearly forty years.

Those members of the profession who knew him personally will always recall his image with affection and high appreciation, and the new generation of physicians now coming on the stage can have no better model by which to shape their conduct in their grand calling, than is afforded them by the career of Dr. Marcellus Whitehead. S.

## READING NOTICES.

As A DEODORANT and antiseptic for the sick-room and dentist's office, Listerine stands preëminent. While it is equal to any and superior to most of the agents commonly used under such circumstances, it adds an agreeable aroma instead of an offensive odor to the surroundings; and is particularly well-adapted to the lying-in room. It may be freely used in spray or lotion without stain or irritation as an agreeable and effectual detergent. It is also specially commendable in weak solution, as a mouth-wash and gargle for aphthous sores or a fungus condition of the gums, and bad breath; and for certain forms of indigestion—those accompanied by disagreeable eructations—a few drops of Listerine in water swallowed is a particularly grateful and excellent remedy. Moreover, according to a series of "Experiments upon the Strength of Antiseptics," by Dr. A. T. Cabot (Boston *Medical and Surgical Journal*, November 27, 1879), Listerine compares favorably with the most reliable agents for the rapid destruction of micro-organisms.—*The Sanitarian, Oct.*, 1884.

THE attention of the medical profession has of late been closely directed to the cause of the enormous proportion of infantile deaths, as recorded in the mortuary records. The general conclusion seems to be that this terrible loss of life in young children, especially at the critical period during the earlier months of dentition (at which time some artificial food is generally either added to, or entirely substituted for the natural aliment), is largely due to nutrition; in other words, that owing to the want of an artificial food calculated to supply the great demands upon the system, the infant is, in effect, starved.

Although, perhaps, diluted cow's milk offers the best substitute for that designed by Nature, yet in so few cases can this be found pure, at least in cities, that it does not contain the essential ingredients for the support and development of infantile life.

Estimated in a cursory manner, human milk contains about 190 parts of water to 110 parts solid matter; and of this solid matter caseine, fat and saccharine matter occupy the larger proportion. If milk contains these ingredients in the proportion, it is assimilated by the infant, and we have as a result healthy growth and development; but if these constituents are wanting, the child is imperfectly nourished, and easily falls a victim to the many disturbances which accompany dentition. To meet this want several artificial Milk Foods, more or less scientifically prepared, have been introduced to the public, and one of the most desirable is that known as the Anglo-Swiss Milk Food (made by the Anglo-Swiss Condensed Milk Company at Cham, Switzerland). This Food has been proved to contain all the necessary ingredionts for a reliable food for infants, and having received the highest endorsements from the medical profession in Europe, and in New York and other large American cities, may, therefore, be used with perfect confidence by all having the care of young children.

NEW YORK, January 1, 1885.

Messrs. WM. R. WARNER & Co., Philadelphia, Pa.:

*Gentlemen*:—The American Pharmacopea Elegans has lately experienced an interesting addition by the introduction of a new article in the shape of quickly soluble and small pills, the manufacturing of which Messrs. Wm. R. Warner & Co., Philadelphia, have made a specialty, called "Parvules (dosemetriques"). They are new because their composition is based upon the decimal system, thus differing from all the other granules now in use. The disagreeable fractions 1-3, 1-5, 1-7 gr., etc., are avoided, and as each Parvule represents a dose, every hour, it saves much time and labor to the prescribing physician. These Parvules originate from the idea to bring rare remedies or the active principles, which cannot be repeated very often in a limited time, in a certain stable form. The pills are prepared in their well-known elegant manner, and in order to give them a fine appearance are supplied with a harmless coating. As the sugar-coating dissolves very easily, in about five minutes, they are highly recommendable. Furthermore, we had an opportunity to test another preparation manufactured by this enterprising firm, i. e., "Effervescing Bromide of Potassium and Caffeine." A teaspoonful of this granulated salt proves to be an excellent remedy for the effect of mental over-exercise and nervous headache. Though we cannot caution too much against the indiscriminate use of the Bromides, as has been clearly demonstrated at a recent meeting of the Neurological Society, the injurious effect of the Bromides is mitigated and reduced almost to a minimum by the synchronic action of the Caffeine. Two teaspoonfuls may be taken, without nausea, in a little water, like an ordinary Seidlitz powder.—*Apotheker-Zeitung.*

# NORTH CAROLINA
# MEDICAL JOURNAL.

**THOMAS F. WOOD, M. D., Editor.**

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## ORIGINAL COMMUNICATIONS.

### SUPPURATION IN THE BLADDER—CYSTITIS—CATARRH OF THE BLADDER.

Lecture by Dr. Ultzman, of Vienna.

(Translated by George G. Kinloch, of Charleston, S. C.)

By *Catarrh* of the bladder we understand, in a general way, an inflammation of the mucous membrane of that organ. This inflammation has usually this peculiarity, viz: that it produces at the same time with its catarrhal secretion a ferment, which changes the urea into carbonate of ammonia. Catarrh of the bladder and ammoniacal fermentation are so generally known to exist together, that formerly the differential diagnosis between pyelitis and cystitis was decided by litmus paper. To-day we know that catarrh of the bladder can exist and be associated with an acid reaction of the urine, and that, on the other hand, we often meet with alkaline urine, which has nothing in common with inflammation of the bladder. Inflammation of the bladder may be divided into acute and chronic—further, into partial and entire, in accordance with the fact of disease of part of the bladder (in the region of the orificium urethræ) or of the whole organ. The partial catarrh is for the most part due to the extension of an inflammatory process from the urethra; whereas the general catarrh of the bladder is caused usually by changes which affect proportionately the entire wall of the organ (eccentric hypertrophy—paresis, etc.)

By reason of the spreading of the inflammatory process towards the deeper layers of the bladder we can distinguish between a purely catarrhal inflammation, affecting only the mucous membrane, and a parenchymatous cystitis, in which the inflammation takes hold of the muscular tissue as well. Lastly, we can establish differences from the character of the secretion, as mucous, purulent and putrid, as the result of examination of the urine.

*Primary* catarrhal inflammation of the bladder is one of the rarest of things. From its protected position and the remoteness of its communication with the outer world, the bladder is kept in a great measure free from those baneful influences which so often produce inflammation in other mucous membranes. The urethra is a closed canal, when there is no urine flowing through it, and excludes the passage of injurious substances into the bladder. If harmful substances cannot penetrate from without, neither can such reach the viscus from without because of its intact mucous membrane. The intact mucous membrane of the bladder is very nearly *incapable* of absorption. If we inject a solution of iodide potassium (½ to 1 per cent.) into the bladder, we will not observe, even after an hour or two, any trace of the same in the saliva; it is also a known fact that the bladder may, by retention of urine, be extended to quite a size and hold the urine for a day or two without any of the constituents of the fluid being absorbed. Only when the bladder is inflamed, as a whole, the different layers being made porous, as it were, by the inflammatory process (parenchymatous cystitis) can foreign elements from the surrounding parts force their way into its cavity; it is true that we find, by parenchymatous changes of the bladder tissue, in its whole extent, a flocculent urine, that is, urine having the odor of fæces. But with an ordinary inflammatory process of the mucous membrane alone this phenomenon is never present.

With regard to the factors which produce a catarrhal inflammation, must be mentioned, first, the influence of sudden cold, or a chilling of the parts. This is an ætiological moment brought about by the influence of unknown atmospheric and telluric phenomena, which very often, for convenience sake, will be accepted, when the real cause is not easy to find out. If we decide that a sudden chilling of the surface is the cause of an inflammation of the bladder, the decision must be arrived at by the most careful reasoning. The bladder, on account of its thorough separation from the atmospheric air, is not exposed to the harmful action of the same, as is the case with the mucous membrane of the stomach, or of the intestine, or of the respiratory apparatus. It is a known fact that catarrh of the bladder *very* seldom occurs in men whose genital apparatus has remained free from diseases peculiar to the same, and especially from gonorrhœa. It is also an established fact that children have no tendency to catarrh of the bladder, but really enjoy an immunity from the same, although just at this age the so-called "colds" in the stomach and in the intestinal and respiratory tracts are so frequent. First in youthful adults we find bladder catarrh most frequent, and then the immediate result of gonorrhœa, or as a result of the same, but becoming apparent first several years after the gonorrhœal affection. It is these latter cases which are often ætiologically assigned to taking cold, or to the drinking of some strong liquor, or to sexual excess, etc. If we examine such cases thoroughly we will usually find that formerly, maybe several years since, a gonorrhœa of long-standing had existed, perhaps with inflammation of testicles or with catarrh of the bladder as a result; we will also find that whitish shreds are passed with the urine, that the urine appears itself, at times, quite cloudy from increased mucous secretion, and that also now and then, particularly at the conclusion of the urinary act, a peculiar, uncomfortable feeling exists, even, at times a slight tenesmus.

All these patients think themselves sound and well, and do not imagine the condition present to be due to a former gonorrhœa, as usually not a trace of secretion can be discovered as coming from the urethra, and they regard the gonorrhœa as cured, because it had run its course apparently so many years since. But this is not so, for the gonorrhœa, and particularly that form which penetrates into the *pars prostatica*, seldom disappeared from this region without leaving behind some sign which tells of its former sojourn there. There always remains a degree of sensitiveness of the parts which makes a recurrence of inflammation possible, and not only possible, but probable, so that a sexual excess or the drinking of beer, etc., is amply sufficient to set up a second inflammation or to produce a catarrh of the "neck"; and, if this spread towards the bladder, a cystitis is the result.

Another, although less frequent ætiological factor of catarrh of the bladder is scrofula and tuberculosis, with a weak constitutional condition. In such individuals the catarrh is exacerbated during the winter months of the year, and disappeared often in the summer, when the weak organism becomes a little stronger. Chronic, painless swellings of the epididymus very often accompany this form of catarrh. Also rectal fistulæ and glandular swellings, inflammatory conditions of the bones, etc.

Tuberculosis of the lung often present is not always discovered in such cases, neither are hard infiltrations always felt in the prostata and vesiculæ seminales by means of the finger in the rectum. Often the hereditary history of the patient is the only thing which will make us suspect the real condition of things, it of course being taken with his general weak condition.

That febrile diseases, and particularly those which are not confined to one portion of the body, but affect the general covering as well as the mucous membranes (exanthema) can give rise to catarrh of the bladder, is proved to us by daily clinical experience. It is known, also, that as a result of diathesis, or of growths in the bladder, or the neighboring region, and through harmful chemical or mechanical influences a catarrh may be set up and may continue a long time. Still another contingent to catarrh of the bladder is the advanced age of life. After the sixtieth year the causes are usually of a mechanical nature, and must be sought in the senile changes of the bladder and of the prostata. At one time it is an hypertrophy of the prostata, at another hypertrophy and dilatation of the bladder, or a paresis of the latter, which, through retention of urine or through any hindrance to the passage of the same, can conduce to catarrh of the bladder. Lastly, it is not to be denied that, through the operation of certain substances, such as cantharides, ethereal oils, balsams, etc., a catarrh can obtain a starting point.

From the above it will therefore be seen that a *primary* catarrh of the bladder never exists, or at least that such a catarrh is one of the rarest of diseases. It is also self-evident that the diagnosis—*Catarrh of the Bladder*—is never sufficient, but we must search out the cause of the same, and not be satisfied by attributing it to the convenient "taking cold," or to the drinking of new *wine* or *beer*; for it is only after a careful investigation of the cause or causes that we can establish the proper treatment, whether it be a purely local one or not.

The diagnosis of catarrh of the bladder depends upon several characteristic symptoms, but the most common of them all are two, which, it is not to be denied, have considerable importance, but which can very often deceive. The physician who depends entirely upon these symptoms, without having made a thorough examination of the urine, will be often lead astray, and will make a diagnosis of catarrh of the bladder, when no such thing exists. These symptoms are—*the necessity of urinating often*, and *the alkaline reaction of the urine.* The first of these is not the attribute of cystitis alone. There are, on the contrary, many kinds of general affections, as well as also many kinds of local conditions in the neighborhood of the neck, which often cause a patient to urinate with pregnancy without there being a trace of cystitis present. Under the general affections may be mentioned the different forms of digestive disturbances which exist at the same time with some form of polyuria (Diabet. mellit., Diabet. insipidus), Hydruria, or *Spasmus detrusorum vesicæ* as a result of some affection of the central nervous system. Under local affections, and these are most frequently confounded with cystitis, is especially to be mentioned that condition following from onanism, which causes a hyperæsthesia of the neck; also venereal excesses, a gonorrhœa which the patient may have had formerly, may produce a similar feeling, and from reflex action the same disposition to urinate frequently, as in cystitis.

In all these cases a careful examination of the urine can alone enable us to exclude cystitis from our diagnosis, for the simple reason that this urine is usually quite light and clear. If the catarrhal secretion is not seen in the urine, then we cannot very well speak of a cystitis.

Still more deceptive is the *alkaline reaction of the urine.* We must, too, recognize the difference between two forms of alkaline urine. Alkalinity may be due to the presence of fixed alkalies or ammoniacal fermentation. The alkalinity due to the fixed alkalies, as, for example, in phosphaturia, is recognized, in that the lime and magnesia salts of the sediment do not combine with ammonia. We find in such urine carbonate of lime, phosphate of lime crystals, also phosphate of magnesia as sediment, but never the large, clear crystals of the phosphate of ammonia—magnesia. We find this form of urine often as connected with central and peripheral diseases of the nervous system, and therefore also in the paresis of the bladder there often exists urine of a similar character.

In this case the urine would already have obtained its fixed alkalies before reaching the bladder, these alkalies being derived from the blood in the kidneys. In a similar way can a certain form of diet (vegetable) or a free use of alkaline mineral waters give rise, artificially, to *fixed alkalies* in the urine, which, it is self-evident, have nothing in common with cystitis. It is sufficient, usually, to put the patient upon some special diet, or give some acid internally in order to restore the acidity to the urine.

It is another thing when the alkalinity is due to the presence of carbonate of ammonia. We find in such sediment, together with the amorphous phosphate of lime, the crystalline phosphate of ammonia, magnesia, and at times the urate of ammonia. Although the discovery of ammonia combinations proves that the alkalinity is not due to fixed alkalies, still it is not always that a cystitis is present. We find quite often, for example, in acute inflammatory and febrile diseases, after the abatement of the fever, and at times during convalescence a cloudy, alkaline urine, which is due to carbonate of ammonia (urina critica). Ancient physicians explained this condition of the urine by saying that with this foul and cloudy urine the diseased elements were eliminated from the body, and they always welcomed this appearance as a sure sign that the patient would recover.

It will therefore be seen that an ammoniacal alkalinity is also not sufficient in order to diagnose cystitis. To make such a diagnosis it is much more important to be certain of a catarrhal secretion; for unless a secretion is present there can be no catarrh in the bladder. The different forms of cystitis are, in accordance with the condition of the secretion, the *mucous*, the *purulent* and the *putrid*. The mucous variety is the lightest. The urine of this contains neither albumen nor pus. It has its normal yellow color, and appears evenly, but slightly clouded by a little secretion. The reaction is slightly acid or neutral, according to whether ammoniacal fermentation be present or not- The specific gravity is nominal—microscopically we find in the cloud-like sediment great numbers of mucous corpuscles and bladder epithelia, together with bacteria. Such a catarrh exists often in paresis of the bladder, in eccentric hypertrophy of the same, because of hypertrophy of the prostata, and in many similar cases where a continued and regular catheterism has to be resorted to.

The purulent catarrh is the best known of the three. The urine of the same has a wine-yellow color and an ammoniacal smell. The cloudiness which exists is more intense than in the mucous form. The specific gravity is normal, carbonate of ammonia is present in large quantities, and there is also albumen. The sediment is usually greenish yellow, tenacious and clings firmly to the vessel. Microscopically are found large numbers of pus corpuscles and bacteria, also crystals of phos. ammoniæ, magnesia and bladder epithelia. The pus corpuscles appear often greatly swollen, so that sometimes we cannot make out their contour.

The putrid catarrh is characterized by the brownish color of the urine and by its penetrating, stinking smell. The urine is strongly clouded and exhibits usually a lower specific gravity. Albumen is present in large quantities, also carbonate and sulphate of ammonia and blood-coloring matter. The sediment is thin and brine-like, and cannot be drawn out. It is made up of innumerable bacteria, triple phosphate crystals, amorphous phosphate of lime and cell detritus. The cell elements, as well as the blood and pus corpuscles and the epithelia, are no longer to be found, having been acted upon by the strong alkaline urine, and thereby broken to pieces. Only at times are plain, recognizable connective tissue shreds to be yet seen under the microscope. We find such urine connected with ulcerative growths of the bladder, tuberculosis, diphtheritis, and the like.

The ammoniacal fermentation, which is found so frequently in cystitis, takes place always in the bladder itself. The urine will be acid when discharged from the kidney, and is, only after being held in the bladder some length of time, changed into its alkaline condition. One can convince himself of this if he washes out a bladder which contains such urine with a solution of carbolic acid or with some neutral salt, as chloride of soda, salicylate of soda, sulphate of soda, and the like, and continue the washing until the outflowing liquid reacts in a neutral manner. Nor if the catheter be stopped up for ten minutes or so, and the urine which flows out after this space of time be examined, it will be found to have an acid reaction.

If the bladder, as a whole, be diseased, the patient complains of a painful feeling over the symphisis, which radiates in different directions. Pressure upon the upper portion of the bladder increases the pain, and the patient feels obliged to urinate immediately. If the bladder is only partially affected, and then in the neighborhood of the neck the pain over the symphisis by pressure is not experienced, but the bad feeling concentrates itself still more in the perineum, in the rectum and along the urethra, as was experienced to be the case when speaking of affections of the neck.

In acute catarrh there is sometimes, but seldom, an elevation of temperature (fever), with a more frequent pulse.

The pathologico-anatomical condition is variable, according to the degree of the inflammation. In acute cystitis of short duration all the tissues resume, after a short time, their normal conditions; but if the cystitis has been of long-standing, we find the mucous membrane of the bladder hypertrophied and the veins of the same dilated. In acute cystitis the mucous membrane appears only slightly swollen and red. The redness appears at one time to be only an injection of the minute blood-vessel of the mucous membrane, and at another time as minute extravasations. Usually these appearances are more outspoken around the neck and in the region of the trigonum.

At times the inflammatory process shows a croupous or diphtheritic character.

In parenchymatous cystitis we find, at times, abscesses in the bladder walls, which abscesses may be of considerable size. As a result of an inflammatory process in the muscular portion of the bladder, the organ sometimes loses its elasticity and atrophies. Lastly, morbid growths, tuberculosis, etc., may also be found in the bladder. The catarrh of the bladder is thereby differentiated from catarrh of the neck, that (1) There is usually ammoniacal fermentation present. (2) The pain complained of by the patient is referred more to the region over the symphisis; and (3) When the urine is passed in two portions each appears equally clouded.

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NOTE.—It was only on this day, and after I had completed the above translation, that I noticed in the *London Lancet* a review of a translation of this same paper of Dr. Ultzman's by Dr. Pratt, of Baltimore, Md. I have not seen Dr. Pratt's translation. GEO. G. KINLOCH.

VIENNA, December 28, 1884.

(To be continued.)

# THE CAUSES AND FIRST SYMPTOMS OF MENTAL DISEASE.

A Clinical Lecture by Dr. **Ewald Hecker**, Director of the Provincial Insane Asylum of Plagwitz, Vienna.

(Translated with special permission of the author by F. **Herbert Hacker**, M.D.

The desire, as well as the necessity, for a division of labor, is at the present day constantly making itself felt in all departments of human knowledge. The ever-increasing growth of the different branches of science has made it impossible for a single individual to be equally versed in each branch, and you are aware, gentlemen, that the science of medicine has taken an active part in the making of specialties, the justice and necessity for which no one will deny.

There arises now the question, in how far shall the practising physician, from whom we demand, just as we do from every specialist, a certain amount of general education and training in all branches—busy himself with the single specialties? The views held on this subject differ a great deal, particularly as regards the different specialties, but everyone agrees that the ordinary physician should at least possess the requisite amount of training in any given branch to know when he can no longer with safety retain the patient in his treatment, but must transfer him to the care of a specialist. This necessity for a change of hands occurs sooner in the case of mental than of any other diseases, and if the practising physician wishes to restrict his knowledge in this branch to the lowest possible limit, he must at least endeavor, with doubled zeal, to learn to recognize the first signs of threatening and developing mental disease, and must understand the history and manner of its development in order to be able to employ the proper therapeutical measures. He must not begin his study of the case when it has already become an imperative necessity to send the restless and dangerous patient to an asylum, but he must act prophylactically, as far as lies in his power. Believe me, gentlemen, an immense amount of severe misfortune, of bitter grief, yes, without exaggeration, frequently the destruction of the happiest and best regulated family circumstances could be avoided if the practising physician only knew when the right moment for interference has arrived in such cases.

When you are employed in a family as family physician, it will never be useless trouble for you to inform yourself as to the ætiological conditions which may obtain in that family; you will treat, for example, a simple catarrh with greater care if you learn that consumption is hereditary in the family; but when I tell you now that mental diseases (in connection with other severe cerebral and nervous affections) are inherited in about one-fourth of all observed cases, you will certainly consider careful attention to the physical development of the different members of the family in which you are employed as being of the greatest importance, even when no very alarming symptoms may be at the moment present in any of them. It is in just such cases that a rational hygiene is of such immense importance and benefit, and I give you the earnest advice to keep under your constant observation the children of all such families in which one or the other of the parents, or even distant relatives, have been afflicted with mental disease or some other severe nervous or mental trouble, or in which the parents are nearly related to each other. I wish to speak to you to-day about what you have to direct your attention to in such cases, as well as in those which do not depend upon heredity, and to give you some advice as to when and in what way you have to act as medical adviser.

Let us speak at first of the hereditary predisposition to mental disease; and I will have to tell you here of a great number of symptoms which are ordinarily regarded as signs of a so-called "hereditary taint"; that is, you frequently find in persons predisposed to mental disease an asymetry of the skull or deformity of the ears, so that either the cartilage of the ear is imperfectly developed, or the lobule fastened to the cheek; you will also frequently observe differences in the mimic muscles of the face, or strabismus, or deformity, or imperfect development of the sexual organs ,or finally, retardation of growth and imperfect development of the entire body. Although you sometimes find these symptoms in cases in which there is no reason to suspect a proclivity to mental disease, still you must never overlook them, especially when you observe them in connection with any psychical abnormality, however slight it may be. If you now learn that the individuals in question have suffered at an early age from convulsions, and still show a slight degree of convulsive excitability (tic convulsif, slight chorea, etc.), if it is further told you by the patient's friends that they are remarkable for their constantly changing temperament, for their excessive excitability and striking lack of self-control, and if you further discover a certain disposition to disregard conventional forms, to perform all sorts of queer actions without regard to consequences or to what people may say, together with an excessive self-conceit, which is, however, frequently united to brilliant talents and one-sided accomplishments, you may safely say that you have to deal with a psychical diathesis which is threatening to become a fully developed psychosis. In the further course of the disease the excitability becomes more and more marked, and you have finally outbursts of anger and rage, which are no longer very far from fully developed mania. Your patient passes with the greatest ease and suddenness from the most passionate expressions of love to the most violent outbursts of hate; entirely unaccountable in his actions, his feelings and his very thoughts, he martyrs and torments his friends and relations, despite his ability to express himself logically, more than is possible for a really raving maniac. Let those unfortunate women who have such husbands tell you what they have suffered in their marriage life, and you will certainly be filled with the deepest compassion for them, and make the solemn vow to pay more attention in future to such individuals, and to withdraw them, as soon as possible, from their surroundings, and by placing them in an asylum, thus do both them and their friends the greatest possible kindness. Do not let yourself be imposed on by what the so-called good friends, i. e., the drinking companions of your patient, may tell you; they have themselves, no doubt, frequently laughed among themselves at the "cracked fellow," but now they cannot understand how he can be insane, for, as is their usual argument, they heard him talk quite "rationally" the very day before.

Gentlemen! "talking rationally," as the phrase goes, is by no means a sign of mental soundness. So many morbidly perverted views and opinions, so many perverse sentiments, yes, so many positively insane ideas and hallucinations may be concealed behind this "rational talking," that you can lay no weight at all upon this symptom. Indeed, you frequently find in our patients a morbidly increased "sharpness" in their habit of talking; namely, when these patients find it necessary to conceal their foolish and perverse actions, or to find excuses for their senseless excesses and outbursts of passion, they frequently develop a wonderful degree of dialectic power and capacity for twisting words and facts to suit their own purposes. And it is just this increased capability for mental action which betrays to the initiated observer the presence of mental disease; for (and this is no contradiction) you will find in all this "cuteness" a certain *naiveté* and weak-mindedness which betrays the abnormality of the thinking process. Usually it is not actually insane ideas (although that of persecution is often present) which attract our attention, but simply the unusually one-sided and sometimes even childish judgments the patient forms, as also the rapidity with which his thoughts are converted into actions, although the latter may be contrary to all rules of morality and justice. The disease we have in view has, indeed, been called, with special reference to this symptom, "*moral insanity*," and contrasting with this symptom the tendency and aptness of the patients for talking "sharply," "*folie raisonnante*," as also because hallucinations are not present "*mania sine delirio*." All these names—and this is important for a correct understanding of the disease—are not intended to designate clinical forms of disease, but simply to describe certain symptoms which may be met with in the most different varieties of psychical disease.

But let us return to our patient. You will frequently find that his lack of self-control exposes him to the influence of the most dangerous passions, which not only help to develop the approaching psychosis, but which also play an important part among the later symptoms. The greater number of so-called soaked drunkards belong to the class of hereditarily predisposed individuals, and in them the symptoms of chronic alcoholism are joined with those of their mental trouble. The exaltation of self, which we observe in what is called *délire des grandeurs*, gives occasion to all sorts of useless excesses, foolish speculation, constant desire to buy and to build, and so on—and not enough that such patients ruin the ideal happiness of their families, they but too often bring about their positive material ruin.

What have you to do, gentlemen, in such cases? Of course this will depend, in a great measure, on the phase of development in which you find the disease. If you have the opportunity of observing the first threatening symptoms in childhood, endeavor, above all things, to gain some control over the education of the child. Every mental and bodily over-exertion must be scrupulously avoided, and in the choice of a school and of the future calling in life, regard must be paid to lesser capabilities and power of endurance of his cerebrum. Spirituous drinks, coffee and tea must be forbidden, and as little irritating a diet as possible must be recommended and employed. As we do not know of, or possess any means of directly affecting the cerebral development, we must be content with the avoidance of all injurious influences and with measures calculated to strengthen the general constitution. A good and well-directed care of the cutaneous surface, by means of lukewarm and cool (never too hot!) baths is especially to be advised. Methodical cold water cures, as is the case in all psychoses, can only be sanctioned when the greatest care is used in their employment, as they too easily produce hyperexcitation and paralysis of the sympathetic system. I must also specially warn you against all weakening and derivative methods of treatment, including, of course, all saline cathartics, as they exercise too depletory an influence on the cerebral vessels. As the disease advances in its development you have, besides treating such symptoms as may call for interference, to direct your careful attention not to let the proper moment pass by for bringing the patient into an asylum, in order to protect both him and his family from the consequences of his dangerous acts. We sometimes succeed in asylums (although in general the prognosis of fully developed cases is unfavorable) under the influence of complete rest and quiet conjoined to a perfectly regular life and diet, in restoring the patient so far that he can return to his family, and sometimes even to his business. Of course, though, you must never lose sight of such a patient, but must keep him under your constant observation. This, gentlemen, is the picture of the disease which is usually, and in a certain sense specifically, termed "hereditary insanity." This form of mental disease gives us a great deal of trouble from a diagnostic point of view, as it is frequently very difficult to tell when the diathesis has become an actual disease; experience and a certain tact, which is only acquired by practice, must assist you, and here it is that I would advise you to obtain the opinion of a specialist. But I must tell you that this form of insanity is not the only one which may be developed from an hereditary basis, but that almost anyone of the known varieties of insanity may complicate the case with its own peculiar symptoms, nor does the mental disease of the son have necessarily to be that from which his father or grandfather suffered. Severe forms in the children may be consecutive to light ones in the parents, and *vice versa.* It is in consequence of these facts that it is so difficult to make any general statement as to the prognosis of hereditary insanity, but we can emphatically contradict the prevalent opinion that such cases usually take an unfavorable course. The very fact that the brain of hereditarily predisposed individuals is so easily injured and put out of balance by slight causes makes it, on the contrary, rather more probable that a readjustment can take place than in those casss in which a violent cause, injuring and shaking in their integrity all the nervous elements, has been necessary in order to bring about the disease in a brain not predisposed to mental disease. This view is also supported by the fact based on practical observation that in so far we have to do with a case which is not *per se* incurable, the prognosis is rather bettered than otherwise by the proof of hereditary predisposition.

(To be continued.)

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# BACILLARY PHTHISIS OF THE LUNGS.*

By Prof. GERMAIN SÉE, of Paris, France.

## 1.—INTRODUCTION—HISTORY AND TRADITION.

Four great names have distinguished and to-day sum up the history of phthisis—Laënnec, whose immortal labors sixty-five years ago clearly established the unity of the disease amid all its varied forms, and revealed its intimate nature, or, in other words, its specificity, in the midst of the entangelment of common and complex lesions which sometimes precede it, often accompany it, almost always succeed it, and so obscure it as to render it difficult of recognition; Villemin, who, by precise, persevering experimentation, demonstrated in 1865 the virulence of phthisis, its transmissibility by inoculation; in other words, its complete reproduction in animals inoculated with the virus. The third name, which in appearance seems foreign to the special study of phthisis, is that of Pasteur. Had it not been for his marvellous discoveries of the vitality of ferments, and in particular respecting the parasitic origin of certain diseases, essentially virulent, science would not have been able to-day to make good her claim to an exact knowledge of the mode of development of the most grave and most frequent of the diseases which decimate the human race. But the great physiologist, who for more than twenty years has been contending for an idea so fruitful in results, was not in possession of the perfected means of demonstration which in these latter times have enabled us to enlarge the domain of observation and push to extreme limits the notion of micro-organisms. It is Koch, who, by reason of a new and rigorous technical method, was able in 1882 to discover and to describe the parasite, in other words, the veritable agent of tuberculosis, and in such a manner as rapidly to compel general conviction. In proving the presence of the parasite, the bacillus, in all the tissues and in certain products of secretion of tuberculous subjects, Koch may be said to have made the bacillary origin of phthisis a dogma of medicine.

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* Being Chapter I. of Prof. See's new work on Phthisis; translated by Dr. E. P. Hurd, Newburyport, Mass.

### § 1.—*Bacillary phthisis in its relations to medical traditions.*

In view of the general assent which has welcomed the discovery of the tubercle bacillus, it is for the clinician to prove that practical medicine is in harmony with experimental medicine which has revealed the existence of the morbific parasites. Already diagnosis has profited largely by the discovery, and we have for our part contributed to the demonstration of doubtful phthisis by microscopic examinations of the sputum; the bacillus in the products of expectoration is the infallible and constant proof of tuberculosis in all its periods, even in its insidious beginnings, which often lead the physician astray during long methods of uncertainty. The bacillus, then, is a reliable and certain sign, but this is not all—it is besides the agent which provokes the malady and the destroyer of the organs which it invades, and being the seal and criterion of tuberculous affections, we are justified in defining phthisis by the bacillus which produces and characterizes it.

If this be a bold innovation, it is at least the logical outcome of data now forever in the possession of science, the sum of which facts enables us now to form an adequate conception (though the outlines are dimly drawn) of maladies called infectious, virulent or specific. Morbid states of specific nature had for a long time their place assigned them in nosography; as characteristics, authorities insisted upon their transmissibility and contagiousness, which of course implies (what in fact was admitted) the existence of a *contagium*, i. e., an intangible, invisible principle. In the place of a word we have to-day the offending body, the *corps du dèlit* itself, and the specificity of the disease vaguely foreseen, long disputed, rests now on a substantial basis, on proofs which may be called *living* proofs.

It will without doubt be said that we are marching toward a revolution which shall do violence to every system and department of medicine. There is really no such danger, and the revolution does not frighten the old clinician, who, far from seeing medical tradition compromised by morbigenous parasitism, finds it, on the contrary, placed on new and firmer foundations. The old doctrine of vitalism—so long discredited—which saw in disease a vital entity foreign to the invaded organism, finds itself rehabilitated to-day under a new form consecrated by science. The specific diseases, so long regarded as the special province of morbid anatomy, or of chemistry—marvellously progressive as that science is, and inclusive of so much that pertains to medicine—must now be regarded as amenable to other laws, namely, those of living beings, and our organisms must be looked upon as the theatre of a constant struggle between the life of man and the life of the parasite world—our ancient hereditary foes. In fine, the biological history of the ferments and morbific microbes, and all that constitutes *experimental vitalism*, will be integral foundation elements of the future pathology.

### 2.—DEFINITIONS OF TUBERCULO-BACILLARY PHTHISIS.

There are several ways of defining phthisis, but there is only one true and useful way. It cannot be defined by its gross patho-anatomical or histological characteristics (as will be shortly shown) nor will it do to leave out the bacillary causal element by which we must be guided and by which we must be limited in the study of this disease.

## § 2.—*Anatomical Definitions.*

As Laennec has clearly shown, tuberculosis takes on divers forms, which all come from one same and sole lesion; the miliary granulation (found in phthisical lungs), the yellow or gray tubercle, which succeeds the granulation, the gray or yellow infiltrated mass, which results from fusion of the tubercles, in fine, the caseation and the softening; all of which are phases in the fatal evolution and destruction which attend certain morbid products of a discrite or confluent kind. All these lesions, with their varied aspects and phases, constitute tuberculosis. But every one of these forms, considered as peculiar to tuberculosis, has been successively contested and denied. Histology has been appealed to to decide the ever-rising difficulties attending this question.

The rigidly accurate methods of microscopical anatomy might have been expected to give the stamp of certainty to the descriptive definition of tubercle. It would, however, be easy for any one familiar with the past to show that, despite the undeniable progress accomplished by the microscope, with its perfected technics the last quarter of a century, it is still impossible to assign to tubercle such precise characteristics as shall differentiate it from other pathological products. Have we not heard one of our most eminent histologists, Prof. Cornil, affirm publicly the worthlessness of the distinctions established, and demonstrate the essential similarity between tubercle syphiloma and the morbid products of "glanders?" Such a confusion—if there were no way of escape—would almost make of scientific medicine a wreck. Tuberculosis, syphilis and glanders constitute undeniable and well defined individualities.*

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* There is nothing characteristic in the tuberculous nodule but the bacillus. The same histological structure, including the giant cell, may be found in the nodules of syphilis or llupus, as well as of tuberculosis. The same local and anatomical change may follow the inhalation of particles of Limburger cheese as the inspirator of atomized phthisical sputum. For decades the pathologists, from Virchow down, their eyes full of caseous matter and giant cells, wrestled

### § 3.—*Etiological Definition.*

Clinical observation, in its turn, has been proved incompetent to clear up the difficulties attending the nature of true tubercle. But clinical medicine cannot advance a step without the aid of pathological anatomy (which has been ruled out) and etiology; there is nothing so peculiar and specific about the phenomena of tuberculosis that the mere study of symptoms can afford the criterion that is wanted; hence nothing remains but etiology or the study of causes, and to this we must henceforth look for our fundamental notions of the disease. Doubtless etiology is not that hackneyed chapter which, under the fallacious pretence of enumerating causes, mentions complacently the age, sex, stature, temperament, constitution of individuals liable to contract such a morbid affection or such an infirmity. After having announced gravely that out of a hundred tuberculous patients there are fifty-two men and forty-eight women, all having the ages of from five to seventy years, of irritable or lymphatic temperament, and most of them without temperament, you have not seriously advanced the study of causes. This enumeration of pre-tubercular or phthisical subjects is continued generally by a series not less puerile of meterological and cosmical considerations relative to the frequency of the disease in valleys or on mountains, in warm countries, or cold countries, and everything seems said, when, to complete the chapter of antecedent causes, it is resolutely affirmed that the determining cause is an impression of cold or of heat. This is not etiology; it is simply a budget of country statistics.

The true study of the morbid cause commenced the day that the specificity of the disease under any form whatever, was recognized; whether that were regarded a poison, solid and soluble, liquid or gaseous, whether a virus or a parasite; in a word, a microbe, the disease was then constituted etiologically, that is to say, in its essence and its individuality. Whether the anatomical product may be like another anatomical product or not, is of little consequence;

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with one another over the question, What is true tubercle? Finally it dawned upon them—they were confounding anatomy with etiology; they were regarding as characteristic of one morbid process a histological structure common to several; *they were confounding tubercle with tuberculosis.* As Cohnheim said years ago: "Struggle against this as we may, there is no help for it—the anatomical definition suffices no longer for the tubercle and tuberculosis."—*W. T. Belfield, in Cartwright Lectures,* 1883.—TR.

or whether the semeiology resembles that of all the other cases, there is needed to constitute the disease a factor which dominates the entire series of lesions and of symptoms. When the first term of the problem is wanting, namely, the causal factor, you are obliged to limit yourself to a determination of the state of structure, or even to the interpretation of the functional troubles, which may constitute the whole morbid affection.

In tuberculosis the etiological element is henceforth rigorously defined—it is the bacillary parasite; this it is which produces the tuberculous lesion, and consequently the functional trouble which follows; it is against this that the prophylactic treatment of the patient and all curative measures should be directed.

### TRUE ETIOLOGICAL DEFINITION OF BACILLARY PHTHISIS.

Phthisis is, then, bacillary; there is no other kind. It is, therefore (to sum up), a virulent disease, due to a micro-organism, special, specific, always inoculable in animals, transmissible from the sick man to the well man by way of direct contagion—far oftener propagated by way of heredity—very frequently localized in a single organ, and susceptible of cure without compromising the rest of the organism.

The bacillus, as long as it lives, and as long as it invades the economy, as long as it undergoes multiplication, constitutes the danger, for it will continue its ravages.

### § 4.—*Plan of Study.*

Part 1.—*Biological study of micro-organisms.*

If it is the bacillus which causes the disease, we shall have, first of all, to inquire what are microphytes in general, and what are their vital properties? The biological study of these organisms will constitute the first part of our work.

Part 2.—*Biological study of the bacilli.*

When we shall have possessed these general notions we shall inquire into the distinctive characteristics, the vital conditions, the morbigenous action, and the origin of the bacilli; the second part will comprehend the biological study of the bacillus tuberculosis.

Part 3.—*Anatomical study of bacillary lesions.*

The third part will be devoted to the anatomical history of the bacillary lesions, that is to say, of tubercle—of its forms, of its evolution in the organs, especially in the lungs.

Part 4.—*Causalities.*

Under this generic name I mean the causality, intentional or experimental, clinical causality, whether efficient or predisposing.

Part 5.—*Clinical study of phthisis.*

The minute analysis of signs and means of diagnosis of the different forms of phthisis will be the subject of the fifth part.

Part 6.—*Prophylaxis.*

Part 7.—*Therapeutics.*

# SELECTED PAPERS.

## DR. SQUIBB ON HYDROCHLORATE OF COCAINE.

Since the writer's last note on this subject the original paper of Dr. Carl Koller, of Vienna, the discoverer of the anæsthetic effects of cocaine salts, has been published. It is a very important paper, and a translation of it may be found in the *London Lancet* for December 6, 1884, page 990. The paper was read at the meeting of the Vienna Royal Imperial Society of Physicians on October 17th, 1884. Its English title is "On the Use of Cocaine for Producing Anæsthesia on the Eye," "Translated and Revised by J. N. Bloom, B.A., M.D." This paper sets at rest several important points which should be noted. Dr. Koller says his first announcement of his discovery was to the Convention of German Oculists which met at Heidelberg on the 15th and 16th of September.

He says it is a well-known fact since 1862, when it was announced by Prof. Schroff, that cocaine anæsthetized the mucous membrane of the tongue. And that it was also known that, when taken internally, it narrows the peripheral arteries, and farther, that the pupil was dilated both by its local application and its internal use. Dr. von Anrep, in 1880, published researches upon cocaine, at the end of which it was hinted that the local anæsthetic action of cocaine might in the future become of considerable importance. But it was not until his, Dr. Koller's, investigations and experiments, first on animals and then on man, that its practical applicability to general use as a local anæsthetic was known, and of this he was the discoverer, and he was led to the discovery by the known effects upon the tongue. He states that in his experiments he used the "muriate of cocaine" in aqueous solution, and that when a few drops of this was put into an animal's eye, the first effect was that of a weak irritant. To this statement he has a foot-note to the effect that "A solution of cocaine in water, up to 5 p. c., can be made without the addition of an acid. The solution is always cloudy. The addition of an acid is to be avoided, as even a very small quantity of an acid causes a very strong burning sensation. When filtered the solution becomes as clear as distilled water." This note was either too loosely written or badly translated. The alkaloid cocaine is scarcely at all soluble in water. Authorities say 1 part in 704 of water, and this is probably correct. The author meant to say that the "muriate of cocaine," as he calls it in the text of his paper, meaning the hydrochlorate, was soluble to the strength of 5 p. c., but always gave a cloudy solution which was cleared by the addition of an acid, but that the addition of an acid was objectionable. In this statement he is in error, as any well made muriate, or hydrochlorate of cocaine, is perfectly soluble in less than its weight of water, and makes a clear solution which is neutral, and not acid.

From experiments on animals he found that the anæsthesia was very superficial, and only complete for the cornea and conjunctiva. From these he proceeded to experiments upon himself and a few colleagues, and finally, upon patients. The sequence of the symptoms he gives as follows: "When a few drops of a two per cent. solution are introduced into the conjunctival sac, or, better still, if they are allowed to run over the cornea—together with an increased secretion of tears, a slight burning sensation is felt, which disappears after an interval of from thirty seconds to a minute, to give way to an obscure feeling of dryness. To the observer an eye thus treated has a peculiar rigid expression, very like that which I noticed as remarkable on the animals upon which I experimented. This expression arises from a decided widening of the palpebral fissure, the explanation of which I shall give later. If now the head of a pin is brought in contact with the cornea, we note the absence not only of the pain usually associated, but we absolutely do not feel the contact, and all reflexes are absent. The same holds good for the conjunctiva, which loses its sensibility to heat and cold. Without any inconvenient sensation, or the slightest reflex movement on the part of the patient thus treated, we can grasp the conjunctiva of the bulb with a toothed forceps, or we can pit the cornea by pressure. In this connection the only thing to be observed is that the appearance of objects becomes indistinct, which naturally is caused by the changed curvature of the cornea. This complete anæsthesia lasts from seven to ten minutes, to give way to the normal condition after a considerable period of sub-normal sensibility." He then goes on to describe the mydriatic effects, and finally, to its therapeutic and surgical application, uses and effects. He finds that its use in diseases of the eye has no influence, beneficial or otherwise, on the course of disease, but simply relieves the pain temporarily, or during the repetition of the application ; but the pain, intolerance of light, etc., seem to have been lessened, not abolished.

The agent, however, was too dear for continued trials in these cases, and all the trials seem to have been made with a 2 p. c. solution, and that solution made from a salt which does not seem to have been very good, although he suspected no deficiency in quality.

In the surgical applications, however, he used a 5 p. c. solution, and commencing half an hour before the operation, instilled two drops every five minutes, the patient lying on his back without a pillow ; and even by this method the deeper tissues of the eye were not insensible, though the iris was cut without pain.

In reviewing these statements of Dr. Koller, it will be observed that they are moderate in tone and character, and not enthusiastic, and that they have been in the main fully confirmed by many observers.

It has been said that the smarting or burning from the first instillation was more severe and more prolonged than it should be from his history ; but it must be remembered that so bitter and powerful a salt could not but be primarily irritant, and that a 4 p. c. solution, as now commonly used, must be twice as irritating as one of 2 p. c. It seems rational and probable that a single drop of

4 p. c. solution at first would reduce this smarting to a minimum, and admit of the larger dose of two drops to be used in the dryer stage, when it would be less diluted by tears, and when less of it would be washed away.

From the accounts of operators here, it would seem that two drops of a 5 p. c. solution every five minutes, for half an hour, is wasteful, both of the agent and of time, unless the agent was defective in quality. Five drops of a 4 p. c. solution in two instillations, ten minutes apart, seems to be a sufficient quantity, and fifteen to twenty minutes a sufficient time. Some operators give the history of a much more copious use of the solution, and this suggests the probability of great waste. The greater or less lachrymation in different cases has doubtless an important bearing both upon the quantity required and the time, by the greater or less dilution and washing away of the agent.

In applying the solution to other mucous membranes than those of the eye, a camel's hair pencil has generally been used, but under the very best management, and upon surfaces made as dry as possible, the pencil leaves but a very small quantity upon the surface, and it is not to be expected that complete anæsthesia is easily attainable in this way, however frequent the applications, and a profuse use of the agent does no good, since it immediately runs off the surface. Neither is it of any use to apply it to surfaces coated with secretions, no matter how thin the caating, if they are of the glairy kind, since efficient contact with the surfaces is then impossible, and the waste is as complete as an application to the skin covered by epidermis. So, on its application to painful ulcers, burns, etc., care must always be taken to obtain contact of the solution by having the surfaces perfectly clean. A blistered surface, if covered with the natural exudation, is almost or quite beyond the reach of the solution in proportion as the exudation is thin enough in consistence to mix with the solution when applied. The model condition for effective use in the mucous membrane of the eye, and upon any surface in that clean condition it will be as certainly effective. In applying to it denuded surfaces and to mucous membranes which will admit it, the best method is to have some light covering of the desired shape and size, that will hold the solution. A thin filtering paper will be moistened over an area of fully a square inch by a single drop, or half a minim of the solution, and under favorable circumstances that will superficially benumb an equal area of mucous membrane. Any one can convince himself of this fact by placing such a piece of paper on his tongue, if the organ be rinsed off clean before the paper is laid on. Such a paper, when touched occasionally with a camel's hair pencil charged with solution, will have its efficiency strengthened, and upon the tongue, for example, any effect possible to the agent is obtainable in that way. But paper is not a convenient tissue for such application. Fine, thin cotton or linen fabric is much better, and nothing can be better than well-worn fine handkerchief material. This is sufficiently absorbent to hold the dose, and thin enough to avoid waste and to be closely applicable to irregular surfaces. When touched in situ, for resupply, the brush should be applied to the upper edge of the tissue, so as to run down through it before draining off, and the smallest possible quantity should be applied at a time if waste by running off be avoided. Much solution is wasted by the use of camel's hair pencils many sizes too large. Indeed, it is hardly possible to get a brush too small to convey this solution economically, unless large surfaces are to be coated. In the use of a brush for applying the solution it should never be dipped into the vial of solution, because it carries back secretions and excretions which rapidly spoil the remaining solution, and it is thus wasted. The proper way is to drop out the quantity to be used on the bottom of a tumbler or wine-glass, and dip the brush in this until it is all used, never putting any back into the vial. In this way any desired quantity may be used and none be spoiled or wasted, If any one will try the effect of a single drop of 4 p. c. solution put directly upon his tongue without rinsing, and then, half an hour later, rinse the tongue clean and apply the same quantity upon a piece of thin bibulous paper half an inch in diameter, he will be convinced that any failures are due to faulty application, and may see that one drop well applied may be as effective as the nature of the agent will admit of, and quite as effective as ten drops badly applied. From reading the published accounts of the application of the solution, it seems highly probable that more of it is wasted than is really utilized, and if this waste could be stopped without increasing the number of failures, the price of the chemical would soon come down.

Little has been written upon the mode of action of cocaine salts as local anæsthetics; or rather, the writer has seen no attempt to explain how coca in substance should be a nervous stimulant, and yet its alkaloid be a most powerful nervous sedative. The two effects cannot possibly be antagonistic, for that is irrational, neither can the effects be due to quantity. Some other rational explanation will doubtless be reached, and the writer offers the hypothesis that the local effect may be measurably a mechanical one, and thus be independent of the effects when it is taken internally. Any agent that would contract the supply of vessels of the terminal bulbs of the sensitive nerves, and press out the blood from them, would to the same extent lessen the sensibility of the part, and if the capillaries were emptied entirely by such contraction, sensation would be abolished as completely as the galvanic current is abolished when the liquid is drawn off from the plates. The application of cold abolishes sensation in this way, and is a local anæsthetic of the same character as cocaine salts, and the benumbing is of the same kind in its observable degrees. Heat also has a similar action when just short of that degree which coagulates the albumen of the bulbs and the circulating fluids. Carbolic acid is also a very effective local anæsthetic by something of the same kind of action, of contracting the capillary vessels, and thus diminishing the supply of the excitant fluid necessary to the function of sensation. But all these agents, when their action is carried to the degree of complete anæsthesia, are proportionately destructive of tissue, and either kill the parts or cause destructive inflammation. All cause blanching of the tissues by pressing out the coloring liquid—namely, the red blood; and tissues, when thoroughly benumbed by cold or heat or carbolic acid, are found comparatively bloodless when incised. An injury to a very cold hand or foot is not painful, neither does it bleed much, but, as it is warmed, the bleeding and pain come on together. It has been noticed by several observers that red mucous membranes, when anæsthetized by salts of cocaine, are white, and when cut into very superficially—that is, when the cut is not deeper than the anæsthesia—there is but little bleeding. This, if true, is precisely the condition in anæsthesia by cold, and the condition in both cases may be due to the same cause, namely, contraction of capillaries, whereby the circulation is diminished or practically suspended. Then, if the effect of cold in producing anæsthesia is a mechanical effect, the similar effect of cocaine, if produced in a similar way, is probably also mechanical. This, in a profound sense, is of course no explanation at all, since it does not touch the reason why cocaine should, or does contract the capillary vessels, and thus deprive the function of sensation of its exciting cause and necessary condition, but yet such explanation goes far enough to show how the same agent may rationally be a nervous stimulant when given internally, and yet be a powerful nervous sedative when locally applied. Indeed, the explanation given of the mode of action is supported by the observations of the early investigators of the physiological effects when internally administered, since they showed that one prominent effect was to contract the peripheral arteries.

If the explanation be true, there is no difficulty in comprehending why the local anæsthesia is a condition of degrees, and can hardly be complete in tissues supplied with vessels of considerable size, and that the anæsthesia of tissues below the surface must depend for degrees upon the rate and amount of absorption of the agent, since it cannot be conveyed from the surface to the deeper parts by vessels which are closed or contracted by it so as to abolish or reduce their carrying capacity.

The explanation also serves to show why it is without effect when applied to the skin, since the epidermis there prevents mechanical contact with the capillaries. But if the skin was well soaked with water, so as to soften the epidermis and bring it into a condition similar to that of the epithelium, then the agent should at least have some effect. Or, in combination with, or solution in, some such liquid as oleic acid, which can get through the epidermis, or be absorbed, it should be somewhat effective.—*An Ephemeris of Materia Medica, Pharmacy, Therapeutics, etc.*

## NEW REMEDIES—EUPHORBIA PILULIFERA.

A good remedy for asthma will always find a welcome. Quebracho seems to have had its day, though still deservedly held in estimation. The new candidate for favor, which promises speedy and sure relief for the dyspnœa of spasmodic asthma, of chronic bronchitis and emphysema; which will better than stramonium and the iodides right the hobbling machinery of hæmatosis, is euphorbia pilulifera. Extraordinary testimony, chiefly from foreign sources, comes to us respecting the efficacy of this herb as a respiratory stimulant. Certain Australian physicians, Drs. Matheson and Shephard, also Carr-Boyd, have reported wonderful success with this remedy in asthma and all affections of the air-passages attended with difficult breathing. We are told that this plant is not merely indigenous in Queensland, but is abundant also in the tropical regions of Asia and Africa, and in South America. One case is reported in which the patient had been a victim of asthma complicating bronchitis for eight or nine years, to such an extent that he found himself unable for many nights in succession to sleep, except in a sitting posture. The administration of euphorbia pilulifera was followed by immediate and permanent relief.

This case would seem, from the communications of these physicians to be typical of multitudes of cases within their experience where individuals, long sufferers, have derived lasting relief from the free use of a simple decoction of the pill-bearing spurge.

This decoction, according to the directions of the *Pacific Medical and Surgical Journal*, is made by simply steeping one ounce of the fresh weed—or one-half ounce of the dried plant—in two quarts of water, and reducing it by simmering to one quart. Of this decoction the dose is a wineglassful. This plant, according to Dr. Boyd, is as common in Australia as the pig-weed is in this country, and is largely resorted to by the natives in pulmonary complaints. Other testimony of a similar kind comes from Jamaica; notably that of Dr. Bancroft. During the past year Dr. Tison, a practitioner of Paris, has published several interesting papers on the euphorbia, in which he details his own favorable experience of the antiasthmatic properties of this spurge, and quite lately has appeared the instructive *thèse* of Dr. Marsset, late of the Hôpital Clermont-Ferrand, in which he reports twelve cases, nine of which came under his own observation, where the most signal benefit was obtained in organic or spasmodic dyspnœa by the free use, after the evening meal, of the infusion or aqueous extract of euphorbia pilulifera. He strongly recommends the dried plant, infused in the manner above described—dose, three or four wineglassesful—or the aqueous extract in the dose of one or two grains a day.

Some of these patients who were so remarkably relieved of all their breathing troubles—and one gentleman (Case IV.) who had been unable for several months to work, or even to lie down, was cured in a few days' time by euphorbia—were patients in the care of Dr. Dujardin Beaumetz, of the Hôpital Cochin, and their cases seem to have been reported with fidelity and much pains.

Dr. Marsset relates with great minuteness the numerous physiological experiments which, while a student in the laboratory of the Hôpital Cochin, he performed on animals to ascertain the toxic effects and mode of action of the euphorbia. He used, for the purpose of experimentation, the aqueous extract of the dried herb, well diluted in water, and either poured it down the throats of his animals (frogs, Guinea pigs, hares), or injected it under the skin of the back. He found the medicament inert in small, and quite toxic in large doses, the symptoms of fatal intoxication being marked distress and agitation, acceleration, then showing, of the heart's action, and especially of the respiratory movements; finally collapse. The necropsy, revealing some congestion of the lungs and bronchi, a well-pronounced injection of the gastric mucous membrane where the poison was administered by the mouth, and distention of the gall-bladder and bile-ducts. The symptoms and post-mortem appearances, he affirms, resemble those where death takes place from section of the pneumogastrics, and the drug is believed to act by modifying the vagus centre in the medulla oblongata. The toxical action is somewhat irritant to the mucous membranes; it seems to be chiefly eliminated by the liver.

As for the active principle of the euphorbia, it would appear to be a gum resin, soluble in water or dilute spirit; no alkaloid has yet been discovered.

It has not yet been determined what remedial principle this particular euphorbia (the pill-bearing spurge) has which the other euphorbias have not, or whether the same antiasthmatic properties may not be possessed by other members of this large botanical family—a family which comprehends more than twenty-five hundred species, all characterized by their acrid, milky juice (in which the toxic principle resides) and their singularly anomalous inflorescence.

If this new remedy should really prove to be what the foreign testimonials above referred to seem to justify us in expecting, it will be a most valuable addition to our materia medica.—*Boston Medical and Surgical Journal.*

# NOTES ON TREATMENT OF EPILEPSY.

By Charles K. Mills, M.D.

Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, etc.

Read before the Philadelphia Neurological Society.

His remarks applied chiefly to the medicinal treatment of epilepsy proper—grand mal, and petit mal. He did not intend to refer to the treatment of convulsive seizures due to tumors, meningitis, spinal disease, etc.

As to the curability of epilepsy, some apparent authentic cases of apparent or real cure in his own practice, private and hospital. In all of these the attacks remained away for from more than one to three years. Gowers mentions a number of cures, at least, cases in which seizures had not recurred for as much as four, five, six or seven years. Several of these cases were children. Three of the seven cases alluded to by Dr. Mills were children. All observations as to the cure of epilepsy were necessarily imrerfect. After a number of years the attacks recur again. Although, however, the absolute curability of epilepsy might be doubtful, certainly great benefit from treatment is to be derived in most cases. It is a wrong to such patients not to treat them.

He had used the following remedies, singly, three or four times daily, in a series of cases, during the last ten years: Bromide of potassium, gr. x to ʒ j; bromide of sodium, grs. x to ʒ j; bromide of ammonium, grs. x to ʒ ss; monobromide of camphor, grs. iij to vj; hydrobromic acid, f ʒ ss to f ℥ ss; iodide of potassium, grs. v. to ʒ ss; biborate of sodium, grs. xv to xx; chloral hydrate, grs. x to xv; oxide of zinc and valerianate of zinc, grs. iij to x; nitrate of silver, gr. ¼ to gr. ½; tincture of belladonna, ♏x to xv, or extract of belladonna, gr. ¼ to ½; extract of cannabis indica, gr. ⅛ to gr. ¼; fluid extract of cocculus indicus, ♏j to iij, or tincture of cocculus indicus, ♏v to x; nitrate of potassium, grs. v to viij. Other remedies which he had only used in combination with some of the above drugs, were as follows: Conium juice, f ʒ j, or fluid extract, ♏iij to x; digitalis, ♏v to x; sulphate of strychnia, gr. 1-40 to 1-30; Fowler's solution of arsenic, ♏ij to v; fluid extract of ergot (Squibbs), grs. iij to vj; iron, cod-liver oil and quinine.

The bromides were certainly the best remedies, and the bromide of potassium, in his opinion, stood at the head of the list. The bromide of sodium came next best to the bromide of potassium. He thought the bromides affected the nerve centres directly. The mixed bromides were better, usually, than any one of them used singly.

The bromides could be advantageously combined with other drugs. The combination which he had found, on the whole, the best for long-continued use, was bromide of potassium, grs. xv; bromide of sodium, grs. xv; solution of the arsenite of potassium (Fowler's solution), ♏ij; conium juice, f ʒ ss, or the fluid extract of conium, ♏iij to v. This was generally made up with syrup of orange and some bitter infusion. Another good combination, mentioned also by Gowers, was the bromide of potassium and tincture of digitalis. It was only especially valuable in cases complicated with weak heart or mitral disease. Monobromide of camphor had no advantage over the bromides. Hydrobromic acid was efficient in very large doses, but so much water had to be given with it that the amount to be swallowed was appalling to the patient. It sometimes irritated the stomach. Borax was not of established value, but helped a few cases temporarily. He found the iodide of potassium, unless especially indicated, had little value when used alone in the treatment of epilepsy. Chloral hydrate is not of much value when given alone, but with the bromides, in cases uncomplicated with cardiac disease, sometimes makes a useful combination. Trousseau's belladonna treatment had been used without noteworthy success. Cannabis indica was not to be depended upon. He had tried cocculus indicus in six cases at the Philadelphia Hospital. None improved, and four were made worse by its use, one of the four becoming insane while taking the drug. At the request of Drs. Reichert and Hinsdale, he had used the nitrite of potassium in seven cases. Of these, only one seemed to be benefited, and some were made worse by its use. When the bromides had to be stopped, the zinc salts or the nitrate of silver were the best substitutes; but they could only be relied on for a short time.

The way to treat epilepsy, in his opinion, was to simply have a plan of treatment, and carry it out over a series of months or years. He would for instance, first put a patient upon a single bromide, say fifteen grains three times a day, to be increased until a decrease in the number and severity of the paroxysms was produced. He kept him upon this perhaps for a month. He then used the mixed bromides, or some combination of bromides with other drugs, preferably the bromides, arsenic and conium prescription. He watched the condition of the patient, and, if necessary, put him on cod-liver oil, quinine or iron. With reference to nitrates, bromates, etc., he said that there was probably some chemical or chemico-physiological reason for inefficiency. The *ites* and *ates* would probably *never* give as good result as the *ides.* Dr. Mills believed with Dr. Pepper (*Medical and Surgical Reporter*, January 12th, 1884), that close attention should be paid to every point in the daily life of an epileptic—to diet, rest and hygiene; but he did not, with his present experience, believe that a genuine case of thoroughly developed epilepsy could be cured, or even greatly benefited, without drugs. Harm, however, might be done by over use of drugs.

Among the surgical and external means of treatment he had successfully used, were excision of cicatrix, removal of neuroma, actual cautery, and blistering to the neck or head. He said he did not use counter-irritation to the scalp, but was a strong believer in the actual cautery, used after Brown-Séquard's method, to the nape of the neck.—*The Polyclinic.*

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## VARIOLA AND VARICELLA.

It is only the practitioner whose experience is limited, who makes light of the difficulty of making a differential diagnosis of small-pox, in the early stages of the disease. This difficulty is frequently so great, especially when the patient bears marks of successful vaccination, as to require time to overcome it. A professional gentleman of this city professes to be able to distinguish between the two diseases, even while the eruption is in the papular stage, by his sense of smell. Doubtless this sense exists in a degree of extreme acuteness in some men, as we know for a certainty it does in some animals, but for the practitioner of the average nose this method of making a differential diagnosis can never be of value. This inability to promptly decide between the existence of a trifling affection and a grave disease, is not calculated to elevate the profession in popular esteem. Any point, therefore, which will assist in removing this opprobrium medicorum, will be warmly welcomed. We have one given us by Dr. C. Bareggi (Centralblatt für Klinische Medicin). He withdraws the fluid contents of variolous papules and pustules, and having made dry preparations of them in the usual way, stains them with methylene blue. Under the microscope they exhibit large numbers of the cocci described by Klebs as characteristic of variola. The author could discover none of these cocci in pus withdrawn from any other source, thus establishing the non-identity of variola and varicella.—*The Medical Age.*

# A SUCCESSFUL CASE OF LAPARO-ELYTROTOMY, WITH REMARKS ON THE OPERATION.

By Alex. J. C. Skene, M.D., of Brooklyn, N. Y.

Professor of Diseases of Women, Long Island College Hospital.

Mrs. Margaret McMeekan, aged twenty-one years, a native of Glasgow, the subject of rickets when a child, was taken in labor with her first child at 4. a. m. October 4, 1884. The escape of the amniotic fluid was the first incident that indicated the approach of labor. She was seen by Dr. L. S. Pilcher at 8 a. m.; on examination the Doctor found a vertex presentation of a fully developed child, while the antero-posterior diameter of the superior strait was estimated by him at less than two inches. He sent for me to meet him in consultation, and to come prepared to operate if we deemed it imperative. When I arrived, a little before noon, dilatation of the os had become well advanced, it indeed seemed, on vaginal examination, to be complete; the uterine contractions were regular and moderate, and the general condition of the patient was excellent.

As it was clearly evident that the delivery of a living child through the natural passages was an impossibility, and as we both further believed the mother's chances would be better if subjected laparo-elytrotomy than if craniotomy were to be attempted, we advised the abdominal section. This was readily consented to, and with the assistance of Drs. L. S. Pilcher, G. R. Butler and L. C. McPhail, I at once operated.

The usual incision was made in the left groin, and nothing unusual was encountered until I divided the internal epigastric artery. This was at once secured by a Péan forceps and gave no further trouble. After reaching the wall of the vagina, a small incision was made, and this was enlarged by tearing it. In so making the incision, it extended a little beyond the junction of the vaginal and vesical walls, and in consequence a minute opening was made into the bladder.

Some little time was now lost in effecting complete dilatation of the uterus ; for, although to the examining finger the dilatation had seemed complete before commencing the operation, it was not found to be so when the artificial vaginal opening had been made. A living male child, fully developed, weighing seven pounds, was then delivered by version and extraction through the wound in the groin. The placenta was delivered by contraction of the uterus aided by external manipulations. The operation-wound in the groin was closed by carbolized silk sutures, a soft rubber drainage tube being carried from the inner angle of the incision downward through the vagina and out below at the ostium vaginæ. Nothing was done to the bladder-tear, but a self-retaining catheter was inserted in the bladder.

The after-history of the case presented no untoward feature. The temperature remained most of the time between 99° and 100° F., rising above 100° only once, and that during the second day on account of blocking up of the drain, except on the fourth day, when the irritation caused by distension of the breasts by a copious milk secretion caused an elevation of temperature to 100.25° for a day. Union by first intention occurred along the entire operation-wound. The drainage tube was removed on the ninth day, and the sinus made by the drain closed at once.

On the twenty-first day after the operation (October 25) the catheter was removed from the bladder, and the patient was allowed to sit up. A degree of vesical irritability remained after the removal of the catheter, necessitating micturition at first every two hours. Two weeks later the period during which she could retain her water amounted to three hours, and at the date of this report (November 24) it still remains at about that degree. Her general condition is excellent. She has not nursed her child, but it has grown well and thriven on artificial food.

This makes, I believe, the ninth case of laparo-elytrotomy on record, and the fourth one in which I have operated.

Of these four, three have been successful, both mothers and children being saved. With each succeeding case I become more and more convinced of the great superiority of this operation over the Cæsarian section, for this class of cases. It is both easier and safer to do.

Certain points in regard to the operation, I think, are worth speaking of.

It is quite important to have sufficient dilatation of the cervix before beginning the operation. To dilate after the cervix is exposed through the wound is easy, but it takes time, which one begrudges during the operation. I refer to this, because complete dilatation of the cervix by the natural means seldom takes place in these deformed pelves, and artificial dilatation is difficult. The uterus lying high up in the abdomen, because of the contracted antero-posterior diameter of the superior strait, makes it impossible for the membranes to freely distend the cervix, except laterally, and hence the membranes rupture early. There is also the same mechanical difficulty in the way of the presenting part of the child completing the dilatation. I believe that owing to these obstacles dilatation is seldom completed without artificial aid. At least it has been so in my four cases. It is well then to dilate the cervix, if need be, before beginning the operation, if after reasonable waiting it does not take place in the natural way. It is often difficult to estimate just how much dilatation has taken place, as it was in this case, where we thought complete dilatation had occurred before we began to operate. It is therefore well to keep in mind that one is apt to get too little dilatation by the natural means.

In regard to the anatomy of the region involved in the operation, my recent observations confirm the views that I have entertained from the first, namely, that the only safe guide to the surgeon in his dissection is a thorough familiarity with the appearance of the various organs and tissues, which enables him to recognize the structures as he meets them. Dissertations on the regional anatomy, taken from dissections made upon normal subjects, with the relations of parts as indicated by measurements, are not to be depended on. But, while placing little reliance on these paper anatomists, I esteem very highly the anatomical observations in regard to this operation contained in the papers of Dr. B. F. Westbrook, of Brooklyn, and Prof. Polk, of New York.

In the subjects requiring this operation, however, the parts are in such a distorted condition that the surgeon will always have to depend mainly on his ability to recognize individual tissues, wherever they may be located.

Danger from hæmorrhage has been anticipated in laparo-elytrotomy, and yet practically this fear has not been justified. So far I have not had any trouble from hæmorrhage, either primary or secondary. In dividing the abdominal wall, the only vessel of importance in the way is the external epigastric artery, which must necessarily be divided. No further care of that has been required than compression for a short time by a Péan-forceps.

The internal epigastric artery I have usually found lying upon the peritoneum and easily separated from the tissues to be divided, so that it could be drawn aside with the peritoneum out of harm's way. But in this case it was separated from the peritoneum far enough to allow me, unsuspectingly, to pass my grooved director under the artery and above the peritoneum, and so divide the former. However, the artery was easily caught up in a forceps which we left hanging to it, until the child was delivered ; when the forceps was removed there was no further disposition to bleed, and no further notice was taken of this vessel.

This shows that there is no great danger from hæmorrhage, and I have not had to ligate a single vessel in any of my four cases. I do not think the loss of blood has been more than in a normal labor, certainly none of my patients have suffered unduly from it.

Much care is necessary in order to save the bladder, in fact, wounding the bladder is the only accident that has happened to me in the operation.

I stated in the report of my second case that there was no reason in the nature of the operation for wounding the bladder. I still hold to this opinion, and think that with due care this accident can always be avoided. In this case the bladder, as usual, was displaced laterally, so that it extended up to the ileosacral junction, and its wall lay above and nearly filled in the place where the vagina had to be opened. The vaginal wall was unusually short, so that it was difficult to bring it high up into the wound, where I could reach it from above. This brought the vagina and the bladder too close together, and in opening the former I inadvertently made a small wound in the latter. A mere slip of the scissors on my part did the mischief; it was not due to any fault in the mechanism of the operation.

I should have guarded against this accident, and proved the claim that the bladder can always be avoided by care, but my mistake has the compensating advantage of showing how trifling the accident is, for the bladder healed without any sutures being needed.

In conclusion, I can only express the hope that this operation will soon become more generally resorted to, especially in those countries where there are so many more unfortunate mothers the subjects of similar deformity.—*Annals of Surgery.*

# EDITORIAL.

## THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## WILMINGTON CITY HOSPITAL—A PUBLIC EXAMPLE WORTHY OF IMITATION.

Three years ago the only hospital provisions for the sick poor in this city and county were at the county poor house, located two miles from town. The means then at the command of the County Commissioners were very poor and unsatisfactory, and the distance of the poor house from town made it well nigh impossible, for the sum paid the attending physician, to get such service as the importance of the charity demanded. These facts for a long time stared the authorities in the face, but a remembrance of the reckless expenditures made from 1868 to 18—, deterred them from attempting again, without carefully weighing the cost, to undertake what they were convinced was a public necessity. The time came at last, and in 1881 a law was enacted by the Legislature empowering the city and county, jointly, to establish a hospital.

The Board of Managers entered upon their work with a wise economy. They purchased an entire square, formerly used as a lager beer garden, having on it several small wooden buildings and a larger dwelling. The grounds were laid out attractively, with well-set shrubbery and ornamental and fruit trees, and ample room for vegetable gardens, and the contour of the ground was well adapted to drainage. The location was remote enough from the heart of the city to prevent convalescents from loitering about the streets and falling into temptation.

Very few alterations of the old buildings were made in the outset, but the difficult task of separating whites and blacks, and males and females, was accomplished only by the personal attention of the surgeon in charge, who, at a sacrifice to his own interests, took up his residence in the hospital.

The affairs of the hospital were conducted with so much economy, that last year the Managers were enabled to add a wing to the central executive building. This addition consists of two wards, one for the males and one for the females. It is a single story building, with abundant lighting and ventilation in the roof. There is also under the same roof a dispensary, operating room, bath rooms and water closets, and there are ample piazzas on the east and west sides, on to which the large windows of the wards open. With this simple and inexpensive addition, the accommodation for patients and their comfort was greatly increased.

We learn from the report of Dr. W. W. Lane, the resident Superintendent and Surgeon, the following items: For the year 1884 the admissions were as follows:

*Charity Patients*—White males 52, white females 27; colored males 63, colored females 27—making a total of 169.

*Of Pay Patients*—White males 9, white females 2, colored males 1—making a grand total of 181 patients.

Dr. Lane points out the growing needs of this admirable charity, among which he mentions the indispensable necessity of a dead house. We do not see how such a reasonable demand can be longer unheeded, both for the sake of the sick and the proper pathological studies of the surgeon.

We note a most singular annoyance complained of by Dr. Lane. He says: "Our principal annoyance at the hospital arises from the superstition and ignorance of the colored population. If any case of an extraordinary character, either of accident or otherwise, is admitted, they hang around the grounds, slip into the gates or get over the fences night and day, so anxious are they to see and find out what is going on." This may seem odd enough to some of our readers, but with such a large population of vagabond negroes, it is not surprising that they should be a nuisance to a hospital when their superstitious feelings are aroused.

From our personal knowledge of this hospital we can say that it has been most economically managed, and the Managers are fortunate in finding a physician and surgeon of skill and experience willing, for the small compensation allowed, to devote all of his time to it. It is very largely due to this fact that the work has steadily grown in value to the community, and we trust that the present officer may be spared a sufficient number of years to carry out all the improvements he has designed.

The history of this hospital may be an example to other of our large towns where heretofore the establishment of a hospital has been considered impracticable. It shows how, with small beginnings and pains-taking economy, an efficient hospital service can be established.

In those cities where the accumulation of wealth has made possible large benefactions for hospitals (as in the case of the German Hospital of Philadelphia, a wealthy citizen presented that establishment with a new wing to the building at a cost of $600,000), our efforts will appear puny and ineffectual; but as the new South has to work out the large problems of charity with exceedingly small means, we cannot afford to despise the days of small beginnings. Cheap pavilion hospitals are within the means of any town of five thousand inhabitants, and with the cheap material at hand in most parts of the South, they can economically apply a match to the buildings every five or six years, and begin again with new and aseptic structures.

We commend the example of Wilmington (and of Raleigh, too, for there they have an excellent hospital, maintained entirely by the voluntary contributions of benevolent people) to other towns in the State. The movement must come from the medical profession, as it did in this county, and a determined effort will accomplish the end. Either the benevolent Church societies or the public authorities will undertake it. We will be pleased to hear that our suggestions have been adopted by Newbern, Goldsborough, Charlotte, Greensborough, Asheville, Fayetteville, Salisbury, Salem—Winston, and other towns in the State.

## PRIVILEGED COMMUNICATIONS OF PHYSICIANS.

Dr. Wiseman, Senator from Rowan and Davie, introduced a bill into the Senate to protect physicians from disclosing the secrets which they may obtain from their patients, when lawfully communicated.

Similar laws exist in several States, and are founded in justice. It has occurred to most physicians of experience that they have in their professional intercourse come in possession of private affairs of their patients which would be very dishonorable to disclose, while the information itself would not incriminate, but was decidedly wrong to divulge, even upon demand of a court of justice. A correspondent in the *News and Observer*, who, we believe, was the brother of Senator Wiseman, related a case of gross injustice done to a physician by setting him up as a witness in a magistrate's court for the sole purpose of extorting from him testimony with which to delight the prurient ears of a drunken magistrate and a debased audience. The witness was questioned first by the magistrate, and not satisfied with what he elicited, any one in the audience was called upon to ask him such questions as they desired. The witness contended with the magistrate that he had no legal right to give such a liberty to persons who were not parties to the suit. It finally transpired, though, that the witness had nothing to tell to satisfy their filthy desires, and the court adjourned with evident dissatisfaction at the result. In this case the parties who brought it before this magistrate passed by the nearest one to obtain the services of this drunken officer of the law, and the trial, as we remember, was held on Sunday.

The bill proposed makes it "unlawful for physicians and surgeons to disclose information lawfully, communicated to them by their patients." This is just and proper for the protection of doctor and patient. Simply to enact that a doctor *shall not be compelled* to disclose information, as above, would leave it to his discretion to reveal, or not, the secrets of his patients, whereas no such liberty should be permitted, always provided that the information should not be criminal.

In tbe case of a consultation to procure criminal abortion, for instance, or in a case when the attending physician was cognizant by actual inspection of a living child in utero, and the birth thereafter denied, with criminal intent, by the mother; or any consultation of a physician with his patient "which was held for the purpose of devising a crime or evading its consequences," would necessarily not be privileged communications.

We believe the committee charged with considering this bill make it incumbent upon the judge to say when to compel disclosures from physicians, "if in his opinion it is necessary to the proper administration of justice." We trust that the bill, in some good legal form, will pass.

## THE PRIZE FOR ESSAY.

We were in error in the January JOURNAL in saying that the $50 prize for an essay was offered by Dr. R. Lee Payne. It was by his motion that the prize was offered by the State Medical Society. The error occurred in the Transactions, and we followed it—hence this explanation.

# REVIEWS AND BOOK NOTICES.

A SYSTEM OF PRACTICAL MEDICINE. By American Authors. Edited by WM. PEPPER, M.D., LL.D., etc., assisted by LOUIS STARR, M.D. Vol. I. Pathology and General Diseases. Philadelphia: Lea Brothers & Co. 1885. 8vo. Sheep. Pp. 1,094.

Every physician in this country must have felt the necessity for some work on the practice of medicine upon the general plan of Reynolds' System, i. e., a work made up of contributions from writers especially versed in certain subjects, and under the editorial management of an experienced teacher and writer, and setting forth practice as actually pursued by the best physicians in America. This work was designed to meet this necessity. Let us see now how well the task has been performed. The chapters introductory to special diseases treat of the General Morbid Processes—inflammation; thrombosis and embolism; effusions; degenerations; tuberculosis; morbid growths. These from the pen of R. H. Fitz, M.D., of Boston. By Henry Hartshorne, M.D., general etiology, medical diagnosis and prognosis, and by Dr. J. S. Billings, a chapter on hygiene. One-fifth of the volume is devoted to these fundamental studies.

Of the contribution on Morbid Processes, by Dr. Fitz, we are struck by the clearness with which he presents the whole picture of modern pathology. The array in a foot note of exclusively German authors to whom he gives credit for "full and free use" in the preparation of his subject, is not at all distinguishable in the manner of the author. There is none of that German flavor, if we may so employ the word, which pervades the many text-books by authors who have been to school to the German pathologists. One can easily appreciate what we so often hear in private conversation about German pathological writing, that to be of practical service it must filter through the brain of an English or an American writer, especially that of the latter.

We may safely say that we have here the best statement of modern pathology as it stands at this writing, than has so far been presented to American readers. The part which animal and vegetable parasites play in causing inflammation is temperately and rationally stated, and we believe that we may accept his statement that Koch's recent discovery of the bacillus of tuberculosis "definitely removes the tubercular process from the group of dyscrasic or constitutional affections to that of the infective diseases." The constant presence of minute organisms in relapsing fevers, leprosy, malaria, typhoid fever, diphtheria, erysipelas, and numerous other affections associated with, if not characterized by, inflammatory conditions, renders extremely probable the closest pathological relation between such diseases and a microscopic organism." All through the discussion of disease processes the author has taken the most advanced ground, and although to some of us who have not yet become quite used to the newer pathology, not having learned yet to admit the new parasitic factors into our system, one cannot fail to see that as new arguments are evolved from the fresher material of the younger pathologists, they are all the more acceptable because they bring with them new ground for hope in the most hopeless of all maladies—tuberculosis. For instance, Dr. Fitz says:

"The actual inheritance of tuberculosis is very unlikely, although this disease is frequently found in successive generations of a single family. The various members of the family are rather to be regarded as furnishing a suitable soil for the growth of the tubercular bacillus, and their exposure to its seed is favored by the existence of tuberculosis in one or more members of the household. The scrofulous condition is still to be regarded as hereditary as well as acquired, and the scrofulous remain as the class to be especially protected from the reception and effects of the bacilli of tuberculosis."

The section on Morbid Growths is a most excellent lesson in modern pathology, founded, like the rest of the chapter, on morbid processes, in the German school of which Virchow is the acknowledged head.

General etiology, medical diagnosis and prognosis is from the pen of Dr. Henry Hartshorne, of Philadelphia. Under the head of etiology he reviews the beginnings of the germ theory, going back to the days of Linnæus and bringing it down to the latest advances. The illustrations are drawn largely from Dr. Sternberg's microscope, so carrying out the spirit of the volume in producing, as far as possible, American work.

The principles of prognosis here described carry us back to the days of the wise and scholarly Copeland.

The introduction of the principles of hygiene into a work on the practice of medicine is, we believe, an American innovation. In Ziemssen's Cyclopœdia, so uselessly inflated in this country, there were two volumes on public health. Dr. Billings, the well-known teacher in this department, and the author of this article, says that the purpose of his paper is to indicate some of the ways in which hygiene, both private and public, is connected with the duties of the general practitioner, and to give some information as to modern methods of investigation and work in preventive medicine. The subject he discusses under three heads: 1. Causes of disease, means of discovery, and prevention. 2. Personal hygiene in its relations to the practice of medicine. 3. Public hygiene in its relations to physicians.

We have here what most general practitioners need, the fundamental doctrines of hygienics, illustrated by practical ideas, clearly set forth.

The second part of the volume treats of General Diseases. It is this part that will be most frequently consulted, and in which most readers will take the greatest interest. The articles on Simple continued Typhoid and Typhus fevers, are written by Dr. James H. Hutchinson, of Philadelphia. Dr. Hutchinson's style is that of a profoundly skilled clinician, writing from the fulness of a ripe experience, and at the same time paying due deference to the writings of others, and with the latter he shows a broad familiarity. We believe that it would be safe to determine the practical value of a book on practice by its article on typoid fever, and we have no doubt that the editor would gladly accede to this test as applied to this volume.

As we go through this volume, examining article by article, we find quite uniform merit running through them all, and we feel no hesitation in saying that this is the very work on practice for the general practitioner, and we believe that it will maintain its supremacy for many years to come, making it a good investment for those who have limited means for library purposes.

A TEXT-BOOK OF HYGIENE: A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint. By GEORGE H. ROHÉ, M.D., etc., etc. Baltimore: Thomas Evans. 1885.

To give within the space of 325 8vo. pages a text-book on hygiene suitable for the student, practitioner and sanitary officer, is an arduous undertaking. When we consider that hygiene (i. e., the science and art of hygienics, including all the topics relating to the public and private sanitary condition) is in a formative condition, and that the range of studies under this head covers an immense territory, and that the subjects treated are so various that one must be a learned physician to know the theory of half of them, and a skilled mechanician to understand the possibilities of appliances, and a practical chemist to discern the basis of the detection of impurities, and a skilled microscopist to avoid stumbling into the labyrinth of crude knowledge which has been accumulating since the germ theory has been in the ascendant, and that if he is either one or the other in any sense profoundly, and not an epitome of all, and more besides, he is not fit to undertake the functions of a hygienist, what must be the pabulum upon which such a functionary must be nourished! To undertake to write a book on hygiene at this stage of our knowledge, it must either be an encyclopœdia or an elementary volume. The book before us comes under the latter head.

The headings of the chapters suggest the range of topics: Air, Water, Food, Soil, Removal of Sewage, Construction of Habitations, Construction of Hospitals, Schools, Industrial Hygiene, Military and Camp Hygiene, Marine Hygiene, Prison Hygiene, Exercise and Training, Baths and Bathing, Clothing, Disposal of the Dead, The Germ Theory of Diseases, Contagion and Infection, History of Epidemic Diseases, Antiseptics and Disinfectants, Quarantine, Vital Statistics.

As succeeding editions are called for, as doubtless they will be, the author will be able to revise and elaborate his subject, so as to make the volume a complete manual for non-medical health officers, and as a class-book for medical students. Dr. Rohé is professor of hygiene in the College of Physicians and Surgeons, Baltimore, and if his classes get what he has so well given in this book, in the form of lectures, they will doubtless enter upon their duties better grounded in this neglected branch than scores of their predecessors. We bespeak a large sale for the book, and trust that every Superintendent of Health in North Carolina will procure it.

FIFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH, LUNACY AND CHARITY, OF MASSACHUSETTS. Supplement Containing the Report and Papers on Public Health. Boston. 1884.

We welcome the resumption of the exellent reports of the Massachusetts Board of Health, No library of a sanitary officer can complete without the volumes heretofore issued, and the present one is equal to the best. The article on "*Tubular Wells and Wells in General, as a Source of Water Supply for Domestic Purposes,*" by J. C. Hoadley, C. E., is a practical presentation of this all-important topic. He shows that driven wells are subject to the same conditions, as to the flow of underground water, depression of water-level by pumping, and other causes, as true of open wells, and consequently such wells are subject to the same laws with reference to water pollution.

Prof. Edward S. Wood's paper on "Arsenic as a Domestic Poison," is a continuation and extension of the study of the wall-papers which contain arsenic, demonstrates that the arsenical colors as now employed are not limited to green, but may be found of everp hue. Thirty-six specimens of wall-paper accompany the report, and vary from subdued brown and blues, to the brightest crimson. We hope that we may have the pleasure of recording, at no distant day, the separation of the Board of Health of Massachusetts from its present uncongenial connection, that the new boards of health of the country may get the advantage of the untrammelled work of such a distinguished body of men.

MODERN MEDICAL THERAPEUTICS: A Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By GEORGE H. NAPHEYS, A.M., M.D. Edited by JOSEPH F. EDWARDS, M.D., and D. G. BRINTON, M.D. Eighth Edition, Enlarged and Revised. Philadelphia: D. G. Brinton, 115 South Seventh St. 1885. Pp. 629.

It is not necessary to explain why this volume has so long been popular with such a large number of readers. It has reached its eighth edition, and will continue to be in demand as long as the editor, who is also publisher, shows the same zeal and industry in selecting from current literature the best and most popular directions for treatment.

As we turn over the pages we see a great many new additions, showing the very latest fashion in treatment down to the recent introduction of muriate of cocain, but not inclusive of it. The prescriptions are numerous enough to allow a great latitude in choice of them, and a curious company of pigmies and giants in the therapeutical world stand as sponsors to them.

We notice that the name of Dr. George Harley appears as Ha*w*ley on p. 399, but there are remarkably few typographical errors.

WOMEN, PLUMBERS AND DOCTORS; OR HOUSEHOLD SANITATION. By Mrs. H. M. PLUNKETT. "Showing that, if women and plumbers do their whole sanitary duty, there will be comparativelv little occasion for the services of the doctors." Illustrated. New York: D. Appleton & Co. 1885.

We would be pleased to know that this little volume had a large circulation among the housekeepers of our land. It has many a useful lesson they ought to know for the welfare of our homes. We are not quite prepared to enjoy the optimistic opinion which the authoress sets forth on her title page, but she has done a good service in presenting substantial principles in so attractive a manner.

Mrs. Plunkett makes the statement, which we know to be true as regards our section, that all over the South and West large quantities of naphtha and benzine are sold under such names as Rose Oil, Liquid Gas, Black Diamond Safety Gas, Paroline, Sunlight-non-Explosive Oil, etc., " but the most insidious evil is the sale of secret and patented recipes and powers which glib-tongued agents claim, and gullible persons believe, are a complete protection from the danger of explosions."

A MANUAL OF ORGANIC MATERIA MEDICA. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Pharmacists and Physicians. By JOHN M. MAISCH, Phar.D. Second Edition. Philadelphia: Lea Brothers & Co. 1885.

Since our first notice of this book it has greatly grown in favor, and it was out of print for fifteen months. As at present revised, the author has admitted the most important drugs indigenous to North America, and also a list of remedies classified according to their zoölogical or botanical derivation. The illustrations are carefully drawn and engraved, and the mechanical execution of the book is admirable. We do not know of any such manual for students in the language.

FOURTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF NEW YORK. Albany. 1884. Pp. 442.

This volume is the collection of many valuable reports on Prevalent Diseases, Vital Statistics, Statistical Nomenclature of the Causes of Death, School Hygiene, Swamp and Drainage Investigations, Lung Plaugue in Cattle, Stench Nuisances, Adulteration of Food and Drugs, Law to Regulate Standard of Illuminating Oil, and the Sanitary Work of New York Quarantine. This Board has been in operation only a few years, but has done very efficient service, wisely using the means appropriated by the State. As Southern States are largely interested in the sanitary condition of

New York, it is a great satisfaction to note how energetic and thorough the New York Board has proven itself.

PROPOSED PLAN FOR A SEWERAGE SYSTEM AND FOR THE DISPOSAL OF THE SEWERAGE OF THE CITY OF PROVIDENCE.

This is a very handsome volume, in paper covers, issued by the city of Providence, and prepared by Samuel M. Gray, City Engineer. It is copiously illustrated by handsome engravings, and is a substantial contribution to the science of sanitary engineering. We commend its perusal by all corporations contemplating the establishment of a sewerage system.

ELEMENTS OF PRACTICAL MEDICINE. By ALFRED H. CARTER, M.D., London. Third Edition. New York. D. Appleton & Co., 1, 3 & 5., Bond St. 1885.

This is a student's manual of 447 pages, which has met with success in Great Britain, and will be well received in this country as "a general introduction to the study of medicine." It does not dwell at length upon the physical signs, as the author says they can only be learned at the bedside. Thirty pages are devoted to a "Therapeutic Index"—that is, a compilation of formulæ, alphabetically arranged by diseases, beginning with *Acne.*

PYURIA; OR PUS IN THE URINE, AND ITS TREATMENT, etc. By Dr. ROBERT ULTZMANN. Translated, by permission, by Dr. WALTER B. PLATT, F.R.C.S. New York: D. Appleton & Co. 1884.

Our readers are already somewhat familiar with this volume from the translations made in the JOURNAL by Dr. George G. Kinloch, of Charleston.

ONE HUNDRED YEARS OF PUBLISHING.

This is a very interesting narrative of the publishing business which was begun in 1785 by Mathew Carey, and is now (1885) in existence under the name of Lea Brothers & Co. It is not only a readable account of the firms, in succession, which have furnished the medical profession in this country with the larger part of their reading matter, but is at the same time a historical view of the publishing business in the new republic. It sounds like a romance now to read of posting off a stage coach load of Waverly Novels, when they were just issued, from Philadelphia to New York; but this was Mathew Carey's enterprise, and very remarkable it was for those days. The products of the press of this house have progressively improved, so that, in a volume before us, one of their recent issues, Pepper's System of Medicine, we find it a positive pleasure to peruse its pages, so beautiful is the typography.

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# CURRENT LITERATURE.

## TUMOR REMOVED FROM THE BRAIN—SCIENTIFIC DIAGNOSIS—THE FUTURE FOR CEREBRAL SURGERY.

When Professor Ferrier went down to the West Riding Asylum, near Wakefield, at Easter, 1874, the writer accompanied him, and was a witness and a voucher for the earliest of those experiments on the brain which have since made Ferrier's name world-famous. After seeing a good deal of his work, the writer expressed himself to the effect that before ten years were gone and past some surgeon would remove a tumor of the brain under the direction of some physician. The diagnosis would be so precise that the surgeon could be told the exact spot for his trephine. That forecast has been verified. Dr. A. Hughes Bennett (son of the famous John Hughes Bennett, Professor of the Institutes of Medicine in the University of Edinburgh) recently diagnosticated the position of a tumor in a man's brain, and under his instructions Mr. Rickman Godlee, Assistant Surgeon to University College Hospital—a man of rare promise—cut through the skull and removed the tumor, with immediate relief to the symptoms. The case got into the journals, and thereupon a storm began to blow. Such a proceeding was so direct an outcome of knowledge founded upon experiments on animals—not only the diagnosis, but the line of after-treatment even which rendered such an operation defensible—that, of course, the anti-vivisectors must be stirred up. These cantankerous mortals having taken up the position that nothing had been learned from experimentation upon animals, that nothing worth the having had come out of the cruelty to animals, and had been so blatant about their opinions—now an opportunity having come for taunting them, it must be made the most of. Putting up a red bag to a bull excites that animal; and a letter in the *Times* giving an account of the case, and the operation roused them into action like a swarm of hornets. Letter followed letter until the public must pretty well comprehend the merits of the case by this time. Unfortunately, as it happened, the man died of an after-consequence of his surgical wound (meningitis), and so the anti-vivisectionists have a leg left to stand upon. Still the operation was a success and a path-breaking experiment which must lead to a new departure in the treatment of encephalic disease. Not unlikely the trephine and the aspirator will come into play ere long in serous effusions, and even in apoplexy, when blood is being poured out and compressing the contents of the skull.

One outcome of all this contention is to bring Professor Ferrier and his work prominently before the public, doubtless to his professional advantage. Unfortunately, however, the professor happens to be a man cast in a sensitive mould, and the attentions of his enemies are very unpalatable to him. Most men would thank their stars for such an opportunity of coming before the public, and look upon the assaults of these enemies as blessings in disguise; but not so in this case. It was no doubt highly unpleasant to read at breakfast that three barristers have applied for a warrant for you at Bow Street, as Professor Ferrier did some time ago when the anti-vivisection party thought they had caught him at a disadvantage; but there is a silver lining to the cloud, or a golden lining, rather, perhaps!

Another outcome is, of course, the spread of a knowledge of the nervous system and its diseases, now so rapidly advancing with mighty strides. Perhaps some account of the case may be welcome to your readers. The patient was a healthy young man who, four years ago, was hit on the head by a piece of timber, but not so severely as to lay him up. Occasional headaches came on after this, and then occasional twitchings of the tongue and left side of the face. Then the "fit" ran from thence down the left arm and leg, without loss of consciousness. At intervals he had more complete convulsive seizures. Twitchings of the face and arm occurred daily, but never together. Loss of power in the left arm followed, and, later still, weakness in the left leg. The general health was good, but pain over the vertex was frequent and violent—that excruciating pain which Dr. Moxon (in his article on headache, which occurred in the *Lancet* a few years ago) has described as occurring with organic disease of the brain. Tenderness on deep pressure was found in the upper parietal region, a little to the right of the middle line. Cerebral vomiting was also present. The congeries of symptoms told of cerebral mischief, probably a tumor. Further indications pointed to its locality, viz: the right side of the head and near the motor centres in the neighborhood of the upper third of the fissures of Rolando.

Dr. Bennett argued that it must be of limited size, as the head-centres were alone severely injured, irritation only being exhibited in the leg, face and eyelid. It was a careful diagnosis, which every unprejudiced mind will admit could not have been made, or even approached, without the knowledge derived from the early experiments of Fritsch and Hitzig, and the more complete and elaborate work of Ferrier. The only aid that could be given to the patient was the removal of the growth, which was clearly near the cortex. Mr. Goodlee removed a triangular piece of the skull, slit up the dura mater, and exposed the surface of the brain. Nothing abnormal was to be seen. Still, so confident were all in the accuracy of the diagnosis that an incision was made into the brain, when a hard glioma was felt, which was about the size of a walnut. It was removed without difficulty. The hemorrhage was arrested by the galvano-cautery, and the edges of the scalp brought together by sutures. The result was magical. The vomiting ceased, the lancinating pains in the head vanished, the convulsions disappeared, and the patient felt well and expressed the greatest gratitude for the relief so afforded to him. For twenty days this went on, the only cause for anxiety lying in the wound, which was not satisfactory. Then, unfortunately, symptoms of acute meningitis set in, to which the patient ultimately succumbed. The progress of the case, however, was such as to demonstrate the effects of the removal of a tumor of the brain as regards relief to the symptoms it set up. The untoward result was one of the accidents which attach to the serious operation of trephining, and had no special reference to the malady for which the operation was performed.

The scene of this operation will some day be put on canvas, and the operation itself will become historical. The practical outcome of vivisection was completely satisfactory as illustrating what we owe to careful experimentation. And if Professor Ferrier's experiments still need any justification, that is now forthcoming. The experiments performed by Professor Gerald Yeo teach us that, with antiseptic precautions, injuries to the brain can be inflicted with practical impunity. It is impossible to criticise the surgical after-treatment of the case until it has been laid before the profession in its entirety ; but it is not absolutely out of the question that there may yet be some details in skull-wounds, which further familiarity therewith may teach us, entailing dangers that are unavoidable. It is a great pity, under the circumstances, that the man died ; but he lived long enough to establish the value of the operation.

Beyond its direct value to the profession, this case is a triumphant vindication of the value of careful experimentation upon the lower animals, and of the accuracy of those observations which have made Ferrier so well known. Without these for a map of the brain, it would be impossible to interpret the complex symptoms furnished by clinical observations. Without them, indeed, these last, however carefully collected and laboriously sifted and arranged, would have remained a mass of fragments which no genius probably could ever have cast into form. But by the light thrown on the brain and the functions of each part of it by experiments performed upon the brains of animals (which are clearly built upon the same plan as that of man) it is now possible to construct a correct diagnosis of what is going on in the brain beneath the bony skull. If Dr. Bennett could have made the coverings of the brain transparent—nay, more, could he have peered into, and seen through, the cortical substance of the brain itself—he could not have ascertained more than he did, or been more accurate in his diagnosis than he actually was. Twenty years ago such a diagnosis was out of the question—indeed, no one would have attempted it ; and now no one is taken by surprise, and all take the case in a matter-of-fact way. We are already so familiar with the localization of function in the brain that, instead of any surprise, indeed, we receive the announcement of the novel procedure as something that we have been looking for, with the gratification, however, of having our anticipations realized for us and our faith corroborated. Fritsch and Hitzig, and still more my countryman, Ferrier, have not only mapped out the brain, but they have done much for suffering humanity.—*Dr. Fothergill's Letter in Philadelphia Medical Times.*

# THE TREATMENT OF INTESTINAL STRANGULATION AND CHRONIC INTESTINAL OBSTRUCTION.

Hitherto it has been the custom to place cases of strangulation of the bowel amongst those of obstruction, and, indeed, to consider them as only one of its forms. Mr. Thomas Bryant (*British Medical Journal*, November 22, 1884) is, however, of the opinion that this arrangement is a grievous error; since in strangulation of the intestine, obstruction is only one of the symptoms, but not the cause of danger or of death; whereas, in cases of intestinal obstruction, the obstruction is the prominent and dangerous feature' and from it, or it chiefly, the consecutive changes are brought about. In proof of this view he adds the fact that when acute strangulated hernia is relieved by operation or taxis, the symptoms, however severe they may have been, at once disappear, though possibly there may be no action of the bowels for two or three weeks subsequently, the want of action not giving rise to any special symptoms; thus proving that in this, as in all acute cases, the symptoms are due to arrest of circulation of venous blood through the strangulated bowel, and not to the obstruction to the passage of intestinal contents. It was from a faulty appreciation of this fact that the older physicians gave purgatives in internal intestinal obstruction, as well as in strangulated hernia after its reduction, while it is evident that there is nothing less than the removal of the strangulating causes from which the slightest good is to be anticipated. And, as in strangulated external hernia, so in internal strangulation, from whatever cause, the same principles of treatment are applicable: operate as soon as possible to prevent the death of the bowel.

Mr. Bryant lays down the following as rules of practice:

1. Laparotomy should be undertaken as soon as the diagnosis of acute intestinal strangulation is made. There should be no delay allowed for the formation of a special diagnosis of its cause. It should likewise be proposed in all cases of acute intussusception, and of chronic, which have failed within three, or at the most four days, to be relieved by other treatment.

2. In all operations of laparotomy, it is to the cæcum that the surgeon should at first advance, since it is from it he will obtain his

best guide. If this be distended, he will at once know that the cause of obstruction is below; if it be found collapsed, or not tense, the obstruction must be above. Adhesions or bands, are, moreover, more frequently near to, or associated with, the cæcum than with any other part of the intestinal tract. It is also in the right iliac fossa that the collapsed small intestine, in cases of acute strangulation, is usually to be found; and with this as a starting point, the surgeon will have less difficulty in tracing up the intestine to the seat of strangulation, than if he begins at a distended coil, when it will be a matter of chance whether he travels away from or toward the special object of his search—the seat of obstruction.

3. In a laparotomy, when the strangulated coil of bowel is gangrenous, it should be brought out of the wound and the gangrenous knuckles resected. The proximal and distal ends of the resected bowel should then be stitched to the edges of the wound, and an artificial anus established.

4. Nélaton's operation of enterotomy should be undertaken in all cases of intestinal strangulation when laparotomy is rejected or seems inapplicable, as well as in cases of intussusception in which the invaginated bowel cannot readily be released. It should be performed in the right groin, or rather, right iliac fossa.

5. If laparotomy succeed, the cause which called for it is removed, and the normal action of the bowel is restored. If resorted to early and as a rule of practice, it is probable that it will be more successful than the treatment by opium, inflation or purgatives, which has hitherto been in vogue.—*Therapeutic Gazette.*

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## DR. H. C. WOOD ON THE PHYSIOLOGICAL AND THERAPEUTIC EFFECTS OF HYOSCINE.

In a paper in the *Therapeutic Gazette*, January, detailing a number of experiments and observations upon the physiological and therapeutic action of hyoscine, one of the two alkaloids of hyoscyamus—the crystallizable, and therefore presumably the purest one—the following results were attained. The hydrobromate (sometimes hidriodate) of hyoscine (Merck) was employed:

"Upon the frog hyoscine acts as a motor spinal depressant, killing by arresting respiration probably through a centric influence; when recovery occurs there is no stage of tetanus following the palsy; any influence the alkaloid may exert upon the circulation is of a depressive character, but it is so light as to be of no importance." "Upon mammals hyoscine acts chiefly as a spinal depressant; it is a centric respiratory depressant, causing death by asphyxia; it has very little effect upon the circulation, what influence it exerts being in the normal animal set aside by the asphyxia it produces; it does not paralyze the pneumogastrics; in enormous doses it paralyzes the vaso-motor system; on the heart itself its influence is very feebly depressant." "The relations between its actions upon the lower animals and upon man are in obedience to the law which I formulated some years since, that as a nerve centre is more and more differentiated it becomes more and more susceptible to the action of drugs. Thus we find the cerebral symptoms produced by the alkaloid in the dog are much more decided than those caused in the mouse, whilst in man the cerebral effect predominates over the spinal. It is plain, however, that in man hyoscine acts as a very feeble sedative on the circulation, a more decided sedative to the spinal and respiratory nerve centres, and a dominant hypnotic upon the brain." "The experiments so far indicate also freedom from disturbance of the secretions and unpleasant after effects. The calmative influence of conium in certain cases of mania is well known, but such action appears to be indirect and due to the motor depressant influence of the drug. From hyoscine we have reason to expect both a direct and an indirect beneficial action." Dr. Wood then details the history of five cases of violent mental disease which he has treated with the agent in question with results corresponding to those detailed above. The clinical results which he has so far had with it in cases other than maniacal are very meagre, but so far as they go are correspondent with physiological results, which indicate little value for the relief of pain, but much for the removal of spasm.—*Maryland Medical Journal.*

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The Muriate of Erythroxylon (Cocain) relieves the turgescence of the venous sinuses incident to an ordinary cold. The relief lasts for from twelve to twenty-four hours. The remedy is used in the form of a spray. Bosworth calls attention to its value in this regard, and a considerable observation enables us to confirm his statements.—*Detroit Lancet.*

## JACOBI ON BACTERIOLOGY.

There was lately a time, or rather, we still live in that time, when a single series of discoveries lays claim to having changed the aspect of pathology at one stroke, and solved all problems. You know I speak of bacteriology. In America, also, all of those who cannot judge of the question by their own investigations—that is, the practitioners, either general or special, have readily accepted the new gospel with but few exceptions. The new theories that infectious and zymotic diseases have each their own bacillus, are so pleasant, and promised to be so fruitful, that it required some courage critically to resist the flood. On the other hand, those amongst us who have a right by their own researches and special knowledge to be heard, have hesitated to accept the results of microscopical, actual or alleged, discoveries as the sole explanation of everything infectious and zymotic. Amongst them I shall only name Wood, and Formad and Sternberg. Into the merits of the case, and the weighing of reasons I cannot go this evening, but it has appeared to me that it would be well to direct the attention of the Academy to that subject as one greatly deserving of its attention.

To me, while I readily acknowledge a valuable increase of pathological knowledge, and the fact that the spreading of some disease, at least, slow, and gradual, and regular, seems to prove the multiplication of cases of disease by the regular multiplying of its causes, it has always appeared that purely bacteric etiology has too often begged the question, and that the answer to the question, whether organic or chemical poisons are the main causes of infectious diseases, has, by no means, been satisfactorily given. In the course of the last dozen years, organic chemistry has made as rapid strides as has microscopy. Cadaveric poisons, ptomaines, have been discovered in great numbers. Most of them are very destructive. Sudden deaths of zymotic and infectious diseases resemble much those produced by these poisons. That the stings of insects, or the poison engendered in putrid corpses lead to speedy destruction has always been known. Its symptoms are exactly like those produced by many known poisons. Forensic medicine has a great many instances already, in which it could be proven that the poison extracted from the body of the dead was not a vegetable agent, introduced during life, but the cadaveric poison. Count Gibbone Selmi proved that what was claimed to be that vegetable poison, was cadaveric. In another case he saved the life of a suspected person by proving that it was not morphine, but a ptomaine which was found in the body. Besides the poisons named, there are strychnine, colchicine, atropine, coniine, woorara, nicotine, veratrine, hyoscyamine, narceine, the symptoms and chemical reaction of which are the same, or almost so, as the cadaveric poisons. Lecithine is found in putrid fish ; a very dangerous chemical poison has been extracted from putrefying Indian corn and rye. Thus it is that many cases of poisoning with cheese, meat, fish, sausage, jelly and yeast, many of them resembling acute infectious fevers, may find, and indeed have found, this ready explanation.

Brieger found quite a number of different varieties of cadaveric poisons—neuridine, neurine, muscarine, æthylendiamine, gadinine, and others. Many of these destroy life in a short time, and with the symptoms of acute infectious diseases. These poisons are found, in many instances, in the fresh dead body, not in that one which has undergone complete putrefaction. The results of putrefaction will, after a while, change entirely and become rather wholesome than injurious. Many years ago Salkowski examined a vessel full of ascitic fluid, which he knew to be in utter putrefaction when he last inspected it. Not only was there no putrefaction any more, but, on the contrary, chemical decomposition had formed phenol. Thus putrefaction had worked its own destruction and antidote. The inference, then, is that a poison, even in the course of the same disease, may not always be found.*

Ptomaines are often met with in the presence of bacteria. Is it the latter which produce them ? Do they so decompose the albumen of the tissue that a ptomaine must or can develop ? Or is it their own vital change which produces it ? Most modern writers—

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* Would it be so impossible to judge that the bacterium is an accompaniment of a chemical poison and may be present, or absent, according to the changed condition of the poison? Such changes take place all the time in putrefying material, as Salkowski has shown, and others after him. They probably take place in the living body also, during infectious fevers. In the incubation they develop, they are most poisonous and vehement during the height of the process, they gradually change into less dangerous combinations, into an indifferent state, and finally a real disinfectant material. Thus it may be seen that the floating poison may become even beneficial. It is for that reason that patients who have outlived a serious attack of typhoid fever, are endowed with better nutrition and more vigor afterward than they ever enjoyed before.

not chemists—believe it. But if the cause of decomposition of the living or dead be not bacteria, but a chemical poison, after all, is it necessary to assume that the poison cannot form except through and with the presence of bacteria? And is the bacterium the only poison? or the only source of the poison?

If deadly poison, such as we know to destroy life suddenly, or almost suddenly, and of such virulence as is reported in what was formerly believed to be legendary only, but which may be historical, will almost invariably originate in the dead body, is it so impossible that it may develop in the still living under certain circumstances? Have we not had enough yet of the monthly instalments of new bacilli which are the invariably correct and positive sources of a disease, and replaced by the next man who comes along? Have we not yet enough of the statements that, as for instance, several bacilli are claimed each to be the only cause of diphtheria, by several observers, that there may be several distinct bacilli, every one of which can produce the same scourge? Is it not just as safe still to presume that, when several forms of bacilli are believed to be such sole causes, that the real cause is in neither?

Exactly so, neither in one nor in the other, notwithstanding it all appeared settled. For our journals are replete with the latest authentic bacterium of diphtheria. This time it is neither Klebs nor Eberth, but Loeffler. Reports, discussions, and even editorials, carry his name over the world. The very nature of diphtheria is said to be revealed again, as several times before; still the discoverer admits that there are cases without the bacterium.

The matter is becoming ludicrous. I begin to fear something like the rebellion against piano-playing in a large European city Is not music a godly art, and the piano a blessing to the musician? But the playing of fifty thousand beginners in a large city is a nuisance. When bacterio-microscopy in the hands of beginners becomes noisy like piano-playing—noisy in books, pamphlets and journals—a gentle protest is permissible. That protest is not meant for the masters who know how to wait and to mature. I do not speak against Robert Koch and his peers, who all of them are more modest than their followers. When the kings build the cartmen are kept busy—and boisterous.

A dozen years ago the coccus of whooping-cough was said to be discovered. There was no doubt about it. There was whooping-cough, there was a coccus, what was plainer and more conclusive? To cure whooping-cough nothing is required but to kill the coccus. Quinine will kill a coccus, quinine cures whooping-cough. Since that time there is no more whooping-cough in existence; or, if a case would be malevolent enough to turn up, it could not last longer than until a few whiffs of quinine can reach it. That is ludicrous, is it not? But it was preached like gospel, and it was believed. Many more such have turned up, and will turn up for coming years to smile at.

There is a peculiar feature in this bacteriomania. Its principal impetus it received in Germany at a time when great changes had taken place in its political and financial affairs. All at once there was an Empire, of which historians so much spoke, youth so much dreamed, romancers so much fabulated. All at once, at the same time and a decade before, an unusual industriousness, commerce, enterprise and unwonted wealth, and still more expectations than wealth; all at once an influx of five thousand millions of francs, not earned by honest work, but conquered by war, which could not turn the poor heads and unstable the solid foundations of regular development. From that time dates the lack of safety and steadiness in German financial circles. They have even invented a name for that period of swindling, "gründerthum." Speculation was rife—fortunes were made in a day from nothing but self-assertion and daring, and lost as quickly.

The moral and intellectual atmosphere created by these tendencies is never breathed by one class of people only. If self-assertion can make a fortune in finance, why not in science? If a reputation may perhaps be made by a stroke of chance, why not try that chance? Speculation was rife. Any young man can look through a microscope, perhaps he will draw the prize in the lottery of alleged science. Looking would be all right, if he would not write. Medical life would be easier if there were less journal articles containing the latest infallible discoveries. Thus it has come to pass that German medicine has a two-fold aspect now-a-days. The days of her superiority are not over yet, her greatest men still live, and the toiling thinkers are at work, but the number of speculators is immense. A great many of the articles printed in the journals of the last ten years have been prematurely published, the number of preliminary notices announcing discoveries under way is very large.

The great embryo cannot wait. He is afraid of having his celebrity snatched away from him by the next-door microscopist.

Thus it is that we often find a difficulty in keeping our eye on the great lights, whose rays are always welcome. If learned and thoughtful specialism has its justification anywhere, its field is the solution of the mooted questions alluded to. Thus far I claim, however, that in regard to bacteriology, the main questions are before the medical world still. I firmly hope the Academy will prove the centre of critical researches by which the problem, whether bacteric or chemical poison, still ac mystery, will be carried nearer its solution.—*Medical News.*

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# CAN TUBERCULOSIS BE TRANSMITTED BY VACCINATION ?

In a recent number of the *Centralblatt für Allgemeine Gesundheitspflege* Dr. Joseph Ackner gives an account of some experiments made by him with a view to determine whether, in a person suffering from tuberculosis and successfully vaccinated, the specific bacillus of tubercle is to be found in the lymph of the vaccine vesicle, so that there might be danger of transmitting tubercle if such lymph were used for vaccination. His conclusions are that in ordinary cases of consumption the vaccine lymph is entirely free from the tubercle bacillus, and that we have no reason to suppose that either scrofula or tubercle are propagated by vaccination.

It is not wise to use vaccine lymph taken from a scrofulous or unhealthy child, not so much because there is danger of transmitting scrofula, as because such lymph is unreliable and gives imperfect results which cannot be relied on as protection against small-pox.—*The Sanitary Engineer, January* 29.

# CORRESPONDENCE.

THOMAS F. WOOD, M.D., *Editor N. C. Medical Journal:*

*Dear Sir:*—My attention has to-day been called to "An Open Letter," etc., published in the NORTH CAROLINA MEDICAL JOURNAL, January, 1885, page 9, written from Lexington, N. C., dated December 26, 1884, signed R. L. Payne, M.D. On page 11 in the article is the following:

"I will mention one more, who received a letter, which I read, from Prof. Tiffany, of Baltimore, in which the Professor wrote: 'You can come right along to the lectures, as preparatory study under a preceptor is not necessary.' Professors of medical schools should certainly be more careful, more explicit, for this man did go on (and many others do the same) without any preparation, staid three months in Baltimore, and came back a full-fledged doctor—in his own estimation. He says he was offered a position in one of the Baltimore hospitals, and declares that he 'knows as much about medicine as any man.' He is as ignorant as he is conceited, yet, having a large family connection, he is doing considerable practice.

"Now, then, I respectfully submit, that if our laws were sufficiently strict no such men as these could impose upon the people of North Carolina, even though aided and abetted by the professors of any medical school."

In the above Prof. Tiffany, of Baltimore, is charged with having aided and abetted an ignorant and conceited man to impose upon the people of North Carolina. I believe that I am the only Prof. Tiffany in Baltimore, and am connected with a medical school, therefore the above quotations from the letter over the signature R. L. Payne, M.D., refer to me, and I am charged with a grave misdemeanor and dishonorable action, not only as a physician, but as a citizen. The gravamen of the charge is contained in the letter quoted in the first lines of the article above. In view of the attack made upon me I *demand* of R. L. Payne, M.D., that he publish in the next number of the NORTH CAROLINA MEDICAL JOURNAL the letter upon which he founds so gross a charge, as well as the name of the man said by him (R. L. Payne, M.D.,) to have received it—for he has made use of my name—that the truth or falsity of the same may be made apparent.

The first sentence quoted by R. L. Payne, M.D., as being in my letter is a phrase that I do not remember to have ever penned—"You can come right along to the lectures." I therefore *demand* that the original (not a copy) be sent to the editor of the North Carolina Medical Journal for publication.

When R. L. Payne, M.D., has given authority for his attack I will reply specifically to such statements and insinuations as refer to me—statements and insinuations which, I regret to say, do not appear to be justified by fact.

Very truly,
L. McLane Tiffany, M.D.
137 Park Avenue, Baltimore, Md., February 4, 1885.

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## SPRAY IN OVARIOTOMY.

*Editor North Carolina Medical Journal:*

*Mr. Editor:*—The following is an extract from a recent work by Dr. Emmet (Emmet's Principle and Practice of Gynætology, page 715): "In this country I do not know of any prominent operator who now employs the carbolic acid spray." This statement implies that the writer is not persuaded of the value of spray in ovariotomy. My own experience has led me to an opposite opinion. Indeed, I should not like to do a laparotomy for any purpose without antiseptic spray. I have been led to this conclusion by the results of one hundred and eighty-three cases of removal of cystic ovaries, of which I have lost only one—but more especially by the result of the last one hundred of these cases, only ten of which were fatal, while thirty-eight were consecutively successful. I feel that to omit the antiseptic spray would be to deprive the patient of one of the ready and efficient elements of success.

As I can hardly hope for much better results than those I have cited, and being quite content to let "well enough alone," I shall hesitate before disturbing my present plan of operation by giving up a detail to which I attach much importance.

I am, very respectfully,
Your obedient servant,
John Homans.
161 Beacon St., Boston, February 17, 1885.

# OBITUARY.

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## DR. EDWIN SAMUEL GAILLARD.

Dr. Edwin Samuel Gaillard died February 2, 1885, at his residence, at Ocean Beach, N. J. Dr. Gaillard was born near Charleston, S. C., January 16, 1827. He was graduated from the University of South Carolina, at Columbia, in December, 1845, and from the South Carolina Medical College, at Charleston, with first honors, in March, 1854. In June of the same year he moved to Florida, and took charge at once of a large practice, being made a member of the State Medical Society. Three years later he removed to New York, and after a few months' residence there he went abroad and remained for a year.

In 1861 Dr. Gaillard joined the Confederate Army at Richmond, and he followed the fortunes of the South until the war closed. He lost his right arm in the battle of Seven Pines, while serving on the staff of Gen. Gustavus W. Smith. At the close of the war Dr. Gaillard practiced his profession in Richmond for three years, afterwards moving to Louisville, Ky. In 1861 Dr. Gaillard received the Fiske Fund prize, and in 1865 the prize of the Georgia Medical Association. A year later he founded the *Richmond Medical Journal*, which he moved to Louisville in 1868, publishing it under the title of the *Richmond and Louisville Medical Journal*. In 1874 he established the *American Medical Weekly*. He received from the North Carolina College the degrees of A.M. and LL.D. Dr. Gaillard was a member of the various Louisville medical societies, was a correspondent of the Gynecological Society of Boston, the Louisville Obstetrical Society, an honorary member of the South Carolina Medical Association, and an honorary and corresponding member of the College of Physicians and Surgery of Arkansas. Dr. Gaillard was elected President of the Richmond Academy of Medicine in 1867, President of the Medico-Chirurgical Society in 1868, and President of the American Mutual Benefit Association of Physicians in 1875. He was made Dean of the Louisville Medical College at its organization, and was also Dean of the Kentucky School of Medicine.

Dr. Gaillard was twice married—first to a daughter of the Rev. Edward Thomas, of Charleston, who died leaving no children, and afterward, in 1865, to a daughter of Prof. C. B. Gibson, of the Medical College of Virginia.

Dr. Gaillard had the versatile gifts of a good medical editor. His reading was broad, his memory good, his command of language excellent. Too often he dipped his pen in gall, but this was largely due to his physical infirmities. Notwithstanding all the obstacles he had to encounter, up to his death there were few medical editors his peers. His influence in medical journalism was, upon the whole, of the greatest importance to Southern medical literature in the stimulus he exerted upon the profession of this section. We are informed that the journal of which he was last editor—*Gaillard's Medical Journal*—will be continued.

# LEGISLATIVE SUCCESS FOR THE BOARD OF EXAMINERS AND BOARD OF HEALTH.

The amendment to the present law regarding the licensing of physicians passed the Senate by a large majority, and it is confidently believed will pass the House. It provides for a penalty of not less than $25 nor more than $50, and imprisonment for each offense, at the discretion of the court, for all persons practising medicine after the passage of the act, without a license from the Board of Examiners.

The House passed an appropriation clause of $2,000 per annum for expenses of the Board of Health, and $2,000 contingent fund, to be at the disposal of the Governor in case of an epidemic outbreak.

The composition of the County Boards of Health was so far modified, that in those counties where there are no licensed physicians to the number of five, that graduates from a reputable medical college might serve. The Committee having the matter in charge thought this compromise the best that could be obtained, and acceded to it. We hope to announce in our next that the two bills have been ratified by both houses.

P. S.—Since the above was put up in type we have received a telegram from Dr. R. F. Lewis, Senator from Robeson, saying that the license law, as above amended, passed both houses, and is now the law. The "complexion and attitude" of this Legislature was not mistaken by the Committee of the Medical Society. All honor to our friends who grasped the subject as only educated gentlemen could.

# READING NOTICE.

Dr. J. W. Hamer, of Hooversville, Pennsylvania, says: "Papine as an anodyne is both pleasant and very effective. It is quicker in action than either laudanum or morphia internally.

NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 3. Wilmington, March, 1885. Vol. 15.

# SELECTED PAPERS.

## CLINICAL LECTURE ON PENT UP SECRETIONS.

Delivered before the pupils of the Medical Department of the Yorkshire College, December 3, 1884.

By C. G. Wheelhouse, F.R.C.S., Consulting Surgeon to the General Infirmary, Leeds.

Gentlemen :—It has seemed well to the combined authorities of the Yorkshire College and of the General Infirmary—within whose walls it has been my privilege to work for the past twenty years—that I, together with my colleagues, Dr. Clifford Allbutt and Mr. Teale, should offer you, from time to time, in the form of clinical lectures, some portion of the experience we have gathered during those many years.

To me, gentlemen, it will be a pleasure to do this; and if, by so doing, I can add to the store you are preparing to carry from those venerable institutions out into the world, I shall deem no labor such lectures may cost me to have been labor in vain.

And to those of my fellow-practitioners who honor me with their presence, I would add that, as far as I am concerned, these lectures are not intended for their instruction so much as to recall pleasant recollections of professional intercourse—as opportunities to remind us of many interesting bygone consultations, and to bring to our memories, for a few moments, such lessons as those consultations may have afforded us, for our guidance in future emergencies. If, therefore, to them, what I have to say, should, now and then, seem trite and unnecessary, I ask them to pardon the apparent presumption, and to remember that it is to younger ears that I am primarily speaking.

In the fulfilment of the ordinary physiological process of the healthy body, and that its ordinary functions may be carried on smoothly and with regularity, certain definite laws have been established, and certain compensatory actions have been provided.

Thus, if it has been ordained that "Man shall live by the sweat of his brow," so it has been provided, also, that honest labor shall provoke repose, and that, in sleep, the wear and tear of labor shall be effaced ; and, as with the whole, so with the parts of our organization, "from labor to refreshment, and from refreshment to labor," is the order of their action, and, upon the regularity of the succession of healthy work and healthy repose depends the healthy performance of the function of each and every part.

So beautifully balanced is our organization, that though to the incurious and unobservant eye it may seem only to possess the attributes of a wonderful and exquisite piece of mechanism, to him who, with reverence for Nature, seeks to penetrate further into its hidden mysteries the science of physiology shows that it is something greatly more.

Never, it is seen, is the action of the whole body, or of any of its parts, the same for many seconds together. A condition of constant change—of change which seems inscrutable—is forever unfolding itself before the eye of the physiologist, constituting, in reality, the life of the body. At this moment, for instance, when you and I, acting and reacting upon one another, are in a state of mental activity, the life and condition of our brains and nervous systems are one thing, and presently, when we have fallen into repose, they will be wholly another.

After one moment this "system" and its "centres" are flooded with an active stream of highly vitalized arterial blood ; at another, that stream has well-nigh ceased ; and as it is with the "nervous," so it is, also, with every other so-called "system" in the body: with the digestive organs during the ingestion of food; with those of absorption and assimilation during its inhibition and appropriation; with the muscular system in its varying conditions of activity and repose; and so with every other.

And, gentlemen, evanescent as these physiological conditions are, it scarcely needs that I should remind you that each one is accompanied by equally varying physical conditions; that, only so long as the perfect power inherent in each part to control and regulate these conditions exists, can the body, or any part of it, be spoken of as "in health."

Health consists of the even poise of the beam in every instance; and the moment the "poise" varies, even by ever so little, then come distress, disordered function, and impeded healthy action. Let the brain be overwrought, let the due proportion between labor and repose be unduly shortened, and you know how soon and how certain the health will suffer.

Those of you who are given to the use of too much midnight oil, and to take too little rest, will appreciate what I mean, and will recognize, in the sense of weariness and inability to continue good work at its best for long together, how true the assertion is; and, as wise men, to whom the well-being and bodily comfort of your fellow-creatures is, in the future, to be entrusted, you will lay every change perceived in the working of your own frames carefully to heart, that you may understand them when called upon to observe and treat them in others.

Among the various changes in the physical condition of parts and organs is the condition of what are called their "secretions" and their "excretions;" and upon the capability, or otherwise, of individual parts to deal with these, will depend many of the problems which will come before you in after life.

As it is the province of the healthy nervous system to generate, to store, to regulate, healthy nervous force, so it is the province of the healthy pleura or pericardium to provide for the free and healthy movements of the lung and of the heart; and just as this is effected in the one case, so it is in all the others; in activity, flooded with healthy pabulum; in repose, dealing with the restoration of equilibrium, or with ejection. And herein lies the difference between the secretions and the excretions. By the one, we mean certain conditions and materials necessary to the healthy action of the part—constantly recurring, and as constantly passing away again; by the other, the final separation and ejection of materials whose future utility is destroyed, and whose retention in the body would be fatal.

Thus the pleura, the pericardium, the synovial membranes, are forever producing, removing, and reproducing just as much "secretion" as suffices to secure the smooth action of the lung, the heart, the joints, but never, so far as we know, destroying the material out of which their secretions are elaborated.

The kidney, on the other hand, the lungs, the skin, the intestinal glands, are forever engaged in separating that which, if retained, would tend as certainly to the destruction of the body as would so much poison introduced from without.

Over certain of the processes and proceeds of excretion we have often, fortunately, greater control than we have over those of secretion; and should any tendency arise towards failure of their ejection, or to their accumulation in the body, our power to deal with them is, in the main, much more prompt and satisfactory.

But the usual current of health does not always run thus smoothy and without friction; secretions and excretions alike may become "pent up" in the body, and, alike, may become the cause of danger, of distress, and of death, unless their evacuation can be secured.

Just as the brain may become over-excited or dulled, as the kidney may be over-active in the secretion of urine or the reverse, or the liver may pour out sometimes too much, and at others too little bile, so the evenness of the working of all organs of secretion may at times be interfered with; and, either as the result of perverted physiological action, or of organic disease, may prove too active, or the reverse, and their secretions may be either too scanty or superabundant.

If superabundant, seeing that, in the main, they are poured into closed sacs, naturally distension first, then over-distension of the sacs is the immediate result; and, unless the balance can in some way be restored, certain and definite consequences must follow.

Sometimes, nay, often, I dare say, such restoration is within the reach of medicine; and very generally, even though it be beyond the aid of medicine, surgery is able to intervene, and, by a timely withdrawal of the imprisoned secretion, may be able to restore the balance; but sometimes medicine and surgery alike are powerless, and both are compelled to lay down their arms.

It may be, it sometimes is, that the consequences are neither important nor serious; thus, in the case of an over-active tunica vaginalis, beyond the discomfort arising out of the weight and size of the resulting hydrocele, no other evil consequence need be greatly feared.

In some, as in the case of the pleura, it may be that the contained viscus, though essentially vital to life, may permit a certain amount of crowding; and, if not unduly pressed, or for too long a time, may, when the pressure is removed, be restored uninjured to its pristine condition, and no permanent harm may have been done.

Thus, may simple effusions of serum into the pleura doubtless occur, are reabsorbed without causing more than temporary inconvenience, and leave no evident traces of their existence behind them; and, provided relief be obtained through the help afforded either by the physician or the surgeon, the spongy lung, uninjured in texture, will resume its normal position and functions almost as if nothing had happened, and no trace of the effusion may remain.

Let me give you a typical case. As I was driving one day past a house at some little distance from Leeds, a medical friend called me somewhat urgently into a house, to ask my opinion of a case of which he was in charge. A young gentleman of otherwise splendid health and physique, had, a few days previously, from some cause or other, been attacked with acute pleurisy, and seemed now almost at the point of suffocation. Physical examination showed the left side of the chest motionless—dull from base to apex, vocal resonance and fremitus entirely absent, with loud tubular beathing near the spine. The diagnosis was, of course, simple enough—acute pleuritic effusion, and, considering the rapidity with which it had come on, almost certainly serous. Fortunately, I had a Robert's trocar in my bag; and with this I was able to relieve the patient without delay, and the case was one in which delay might have caused very serious consequences. I tarped at once, and drew off six pints of clear fluid, and had the satisfaction to find the chest fully resonant, and the breath-sounds normal, even before I left the house; but, though I left the patient wholly relieved for the time, I felt bound to express my fear that, probably, the effusion would be repeated; and that, instead of simple serum, we might, perhaps, on the next occasion, have to deal with pus, and have an empyema on our hands.

Fortunately, this proved to be a needless one, for the patient made an uninterrupted recovery, and has remained ever since quite well and strong.

But, gentlemen, pent up secretions are not always thus happily disposed of. They may bring life into imminent jeopardy, and that in various ways. In some, the course of the mischief produced may be lingering and slow, and may allow ample time for thought and consideration.

Take, for instance, the case of a distended joint; a joint distended, it may be, only by its natural secretion in excess, or which, originally so distended, has passed on into suppuration, and which, by the severity of the constitutional mischief it is causing, threatens life. You see this case well-nigh every week, you see it almost every Wednesday morning submitted to "consultation," and you see how we, your teachers, have time and opportunity to consider, to weigh and to argue, all the "pros and cons" of the case, before we finally determine what we consider to be the best line of treatment to adopt: whether to wait upon nature, to aspirate, to evacuate by direct incision, to excise, or to amputate; and the patient suffers in no way while we do so. But contrast this with a case which once happened to me and to my colleague, Dr. Allbutt.

In the dead of the night I received an urgent message from Dr. Allbutt, requesting me to come to the infirmary to his assistance in a very urgent case. I found him sitting by the bed of a dying patient; I say dying, for so certain was his death considered, that his bed was screened from the observation of the other inmates of the ward, that they might not see him die. A hasty explanation told me of a case of acute rheumatic fever, which had resisted every kind of treatment, and was now closing, apparently, in acute pericardial effusion. Medicine, said the doctor, has done what it can. Is it in the power of surgery to do more? Remembering the teaching and experience of Trousseau, we thought it not impossible. A hasty glance at the bed showed me a patient, livid, cold, covered with a clammy perspiration, pulseless, eyes glazing, hair soaked with sweat, and death plainly stamped upon pinched and withered features.

I slowly but steadily thrust a small trocar and cannula along the upper margin of the fourth left rib, upwards and to the right, until I found it communicating to my hand the feeble beating of the smothering heart; withdrawing it for half an inch, I then altogether withdrew the trocar, and, leaving the cannula, had the satisfaction to see, flowing from it *per saltum*, a clear stream of fluid, and to feel the heart grow stronger and stronger as it recovered from its load. Eventually that patient also recovered; and though the operation was done in the old infirmary, he is still alive and well.

Here was a pent up secretion, which, save for the aid I was able to afford the patient, would, in a very few moments, have placed him beyond all help.

Dr. Allbutt reminded me that Trousseau, after withdrawing the fluid, had always washed out the pericardium with a weakly iodised solution; but here my natural caution came into play; and, having succeeded so far, I declined to adopt a measure which seemed fraught with danger almost as great as the only mischief, and I have never regretted that I held my hand.

Now, let me give you the outline of another case which once occurred in my practice, and which, while it interested me greatly at that time, gave me also very serious anxiety. It is a typical instance of an excretion simply mechanically "pent up," and which yet ran far towards bringing about a fatal issue.

A young lady, a member of a family of wealth and of important position, living in a mansion surrounded by its own park, and free, therefore, from the contamination of surrounding nuisances, situate in one of the healthiest and most open parts of Yorkshire, and supplied with water whose source was unexceptionable, was, nevertheless, the subject of what was supposed to be well marked and protracted blood-poisoning; constantly recurring sore-throat attacks, sometimes almost approaching diphtheria in virulence; pallor, anæmia, loss of weight and strength, occasional attacks of diarrhœa, sometimes of profuse sweating—a mixture, in fact, of irritative fever with hectic. So serious did her condition become, that her life was manifestly in danger, and yet no bodily organic disease could be anywhere detected to account for these very pronounced symptoms. The most careful examination of the chest failed to detect any mischief there; there was neither pain, nor cough, nor expectoration, nor any physical evidence of any condition which could account for them; and, so far as could be made out, all other important functions were declared to be properly, though feebly, performed.

In these days, gentlemen, of sanitary activity, the drainage of the house was not overlooked; for, as was not unnatural, drain-poisoning was suspected; and, at great expense, the whole system of the drainage and sanitary arrangements of the house was carefully, but unsuccessfully, examined.

No fault of any magnitude—none, certainly, which could bear so directly on any one member only of the family, could be detected, as to give any clue to the cause of the illness, and every one was baffled. Removal from home, sea air, mountain air, and every conceivable form of change was tried in turn, and failed, and hope was well-nigh extinguished.

I need not say that, in a case of such interest and such importance, every function was most thoroughly questioned, and none more carefully so than the menstrual. But, one day, it happened that something occurred which led her usual medical attendant—a hard-headed, shrewd man—to inquire with somewhat more of circumspection than he had ever done before into this particular function. He was assured that the young lady was regularly unwell, and all that he could ascertain was that the "periods" were unusually prolonged, though the discharge was only scanty.

Examination of a diaper showed him a small amount of deeply discolored and "fœtid" discharge, and this determined him, at all risks, to propose a vaginal examination. Before this was consented to, a second opinion was demanded; and I, on hearing the attendant's account of the case, feeling strongly with him that these were conditions which must be fathomed, seconed his request, and consent was happily given.

Gentlemen, it took very few seconds, then, to solve this hitherto great mystery. The patient having been anæsthetised with ether, we found a hymen, not indeed perfect, but so nearly so, that a tiny aperture was all that existed to permit the exit of the natural excretion.

Month after month the discharge had appeared, and so had satisfied the minds of both patient and attendants, and yet, month after month, a large residuum had been retained. This, by admixture with air, had become a fertile source of decomposition, and, by reabsorption, had kept the system in a condition of chronic drain-poisoning indeed.

On freely dividing the hymen, the vagina was found dilated into a distended sac. Its walls were granular and over-vascular, converted, indeed, into a large absorbing surface, which had been only too apt an agent of reabsorption. A free outlet was made, and a few months sufficed not only for arrest of the mischief, but for cure, complete and perfect, of all the evil consequences.

Then, gentlemen, there is another form in which "pent up" uterine secretion may meet you from time to time, and cause you the gravest and most serious anxiety, which I must not pass over without a word of comment, threatened septicæmia following labor. There are few of us who cannot call to mind cases in which, after labors apparently the most prosperous, in which on the third or fourth day, or sometimes even later, for I can call to mind one in which it happened on the fourteenth, a rigor, followed by the severest constitutional irritation, has not suddenly cast a cloud of anxiety over all our hope of well-doing.

Many such have happened to me during the course of my life, I doubt not, have happened also to many who are honoring me with their presence to-day. Let me advise you that such cases treated simply on general principles will almost infallibly go on to a fatal termination, but which, if properly comprehended and rightly treated, may still be conducted to a favorable issue. A small amount of imprisoned uterine discharge, a few shreds of imprisoned and decomposing membranes, or a tiny lobule of retained, imprisoned and decomposing placenta—nay, even a little gas generated by some unhealthy condition of the interior of the uterus, may be causing all the danger. These, if not set at liberty or got rid of, may suffice to bring about a fatal issue. Under such circumstances, let me advise you, with your own hand—and, need I say, with the utmost gentleness and care—to wash out the cavity, not of the vagina only, but of the uterus itself, with an antiseptic wash.

The mere dilatation of an os, closed it may be by spasm, or even by simple swelling, may permit of the escape of such, and may suffice to rescue your patient from otherwise imminent danger. I need not say that it should be your care to do this with your own hand, not trusting to the intervention of the nurse.

Skilled knowledge is required to meet the emergency, or harm, rather than good may be the result. Air may be thrown into the uterine cavity instead of being let out, the uterus may be distended, and the contents of the syringe may be forced through the unclosed Fallopian tubes into the peritoneum, or into open uterine sinuses, and instant death may thus be caused. But with gentleness, and care and knowledge combined, these evils may be avoided, and then all may again go well with your patient.

Now, gentlemen, I would point to this melancholy spectacle.* I have had it brought from the museum of the school to show you. This was a dispensary-patient of mine, who reached the age of 12 before death released her from one of the most terrible conditions of pent up secretion I have ever seen. The aid of the physician and of the surgeon alike, in this case, proved unequal to give the faintest relief, and death, when it came in the end, came as the only solution of many and increasing difficulties.

I have not introduced the case, however, only to tell you this, but rather to tell you that, carrying the remembrance of it with me, I have been induced, and I have seen others induced, in an earlier stage of this condition of hydrocephalus, to intervene and endeavor, by the introduction of minute capillary drains (Southey's) to command the secretion, but only with disastrous effect. Convulsions, coma, and speedy death, have, so far as I have seen, been the only results of such interference; and I, at any rate, have invariably regretted it. In a form of disease somewhat allied, however, to this, I think modern surgery is holding out a helping hand.

I have seen my colleagues, Mr. Atkinson and Mr. Robson, each effect a distinct cure of the hitherto uncontrollable condition of spina bifida.

In Mr. Atkinson's case the cure was effected by strangulation with the elastic ligature; in Mr. Robson's, by a more distinctly surgical proceeding. Taking from the surface of the tumor an ellipse of skin, the sides of the inner membranes of the sac were brought into apposition by fine sutures, and the superfluous portions were cut away; then, between these and the skin, a piece of recent rabbit's periosteum wás inserted in the hope that it would develop bony growth. This it failed to do, but it lived, and added firmness and strength to the cushion which eventually covered in the opening in the vertebral column, and the child recovered.

But so far, gentlemen, notwithstanding this unhappy instance, we may flatter ourselves that, so long as we have only to deal with secretions healthy in character, though abnormal in amount, we have, in the majority of instances, means, both medical and surgical, to enable us to deal with them; but, unfortunately, they often come before us in another and much more dangerous form.

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* A cast of an extreme case of chronic hydrocephalus.

Sometimes from the beginning, at others as a sequel of effusions originally more simple in character, we may, in every one of the regions I have mentioned, and in many others, have not simply serous and healthy secretions pent up, but diseased and unhealthy ones.

Serum may be superseded by pus; simplicity may be changed for putridity, and the constitutional disturbance produced by their presence may be changed from one of simple excitement to one of violent and virulent febrile disorder.

You see so many cases of empyema treated in this institution, and treated almost invariably by free posterior incision; you see so many suppurating joints freely incised, large abscesses opened, and all alike cleansed, drained and antiseptically dressed, that to dwell upon them would be to waste your time; but there is a class of cases to which I wish to direct your attention, and in which these conditions are exhibited, as being not only of great importance in themselves, but as opening up a field of surgery almost new.

A few years ago I was consulted in a great emergency, by a medical practitioner of eminence in this county, in a case of supposed empyema; indeed, I was summoned for the express purpose of removing the contents of an empyema; but, when I had examined the chest, I was very doubtful whether any empyema existed at all, and I ventured to express my doubt.

I was met with the assertion that it was unquestionably so, and that the patient was even then coughing up daily large quantities of very fœtid pus. I introduced an aspirator-needle into what should have been the pleural cavity, without finding any pus, and I repeated the puncture in several places, always with the same negative result. Again, therefore, the chest was very carefully examined, and, at one point, in the middle lobe of the right lung, we fancied we could distinctly define a large splashy cavity. One of my exploratory punctures had been provokingly near this spot, but had evidently just missed it. I now reintroduced the needle, and guided by the idea I had formed to what I supposed to be the diseased spot, pressed on my needle until, to my great satisfaction, I plunged manifestly into the middle of it, and withdrew from it thirty-six ounces of dreadfully offensive pus, to the delight of both patient and attendant.

But to me there was more than mere gratification in this result; there was an altogether new experience. I had no doubt whatever that I had tapped and emptied an abscess seated in the very middle of the lung. I had never heard of an abscess so placed and so treated before.

For a time the patient did extremely well; no evil seemed to come from the operation, and the relief afforded was beyond expression.

Once afterwards I emptied the cavity in the same way; and again with the same gratifying result; and, though the patient eventually died, the case opened up to me an entirely new field of possibilities. Here was a poor sufferer who had been engaged for many weeks in the ceaseless occupation, necessary by night as well as by day, to the utter destruction of everything that could be called rest, of coughing up the fœtid contents of an abscess. Why should not such an operation as the one I had performed be frequently resorted to?

In the Address of Surgery which I had the honor to deliver before the members of the British Medical Association, in 1878, at the annual meeting at Bath, I propounded this question; and, for, I believe, the first time, directed professional attention to the subject. Since that time I have heard of a few cases in which the same practice has been adopted, and I can personally point to two in which it has been followed by success. In lectures such as these I can only, in the main, draw upon my experience for cases illustrative of any opinions I may advance. I cannot show you the actual cases themselves, as your systematic surgical teachers are able to do, but I doubt not that, at some period during your pupilage, you will see this question discussed; and it may even be that, in years to come, you may live to see the practice received and acted on as a recognized method of treatment.

Let me give you in detail one of my own cases, the notes of which are before me. I was requested by a surgeon in this town to see a patient with him, about whose recovery he expressed himself as hopeless, as he considered her far advanced in phthisis, and beyond the reach of any save very temporary relief. Cough, emaciation, profuse fœtid expectoration, overwhelming perspiration whenever she slept even for a few moments, were her chief symptoms;

but the characteristic feature of her case was the fœtid expectoration which she was ceaselessly engaged in coughing up. Day and night it neither was mitigated nor abated, and even death was spoken of as a longed-for release.

In this case, too, I found a great splashy cavity at the back of the left lung; and, on placing the ear over it, the voice was transmitted directly into it as if through a trumpet. There was ground for imagining that this was an abscess which had burst into the pleura, and that I had a compound empyema to deal with. I opened and drained as if for empyema, and with perfect success, for not only was the suffering of the patient relieved, but after a time she left the Infirmary, apparently recovered, and came many times afterwards to report herself as fairly well.

The other case I desire to quote is one recorded by my colleague, Mr. Teale, in the *Lancet* of July 5th last. In this case, as in the last, the patient, supposed to be suffering from pleuritic effusion, was found to be, in reality, the subject of abscess in the lung, which, after much consultation between many medical men, was antiseptically incised and drained, and from which the patient eventually recovered.

The following is Mr. Teale's published description of the case:

On March 1st I was requested to visit Mr. B., aged 54, in consultation with Mr. Ireland, of Tadcaster. The patient had been ill for three months, and had been seen occasionally by the late Dr. Shann, of York, Dr. Clifford Allbutt, of Leeds, and Dr. Myrtle, of Harrogate. The earlier history of the case had been most obscure, commencing in December, 1880, with a cold, shivering, loss of flesh, vomiting and retching, and pain in the hepatic region, but there was no cough nor any symptom of lung disease. Dr. Allbutt, in the middle of February, found hepatic dullness increasing upwards, as if there were fluid in the lower part of the thorax; and a week later (February 28th), Dr. Myrtle saw the patient; and, finding dullness occupying the lower half of the right lung, came to the conclusion that fluid was present, and advised early tapping.

On March 1st, after examining the chest, I came to the same conclusion as the other medical men; namely, that there was fluid in the pleural cavity.

The right side of the chest having been punctured, low down, with the small trocar of Bartleet's aspirator, a few drops of clear, straw-colored fluid escaped; and, even after the addition of the suction of the aspirator, only two drachms of fluid were obtained. Being still confident that fluid was present, I made a fresh puncture higher up, when very offensive, thin, greenish pus appeared, but only in drops. By applying the aspirator, more pus was obtained; and, after careful and continuous aspiration, about a pint of pus was slowly withdrawn. My view at the time was that there were two separate collections of fluid in the pleural cavity, shut off by adhesion from one another.

In consequence of the unexpected character of the case, two days later a consultation was held with Dr. Allbutt, Dr. Myrtle and Mr. Ireland; and it was decided that, as soon as the temporary relief given by the tapping had passed by, the thorax should be opened and drained.

On the 16th the patient had become more hectic, and expectorated for two days most offensive pus, and was, altogether, extremely ill.

*Operation.*—An exploring trocar was introduced at a point a little below and in front of the angle of the scapula (ninth intercostal space), and a syringeful of fœtid pus was withdrawn. The patient having been cautiously put under ether by Mr. Hartley, I made, with the assistance of Mr. Ireland, an incision at the site of the puncture, and opened the pleural cavity. No pus appeared—only a small quantity of serum. The finger, introduced into the pleural sac, discovered the lung, but no large space. The adjacent pleural surfaces were rough, and numerous adhesions were broken down easily by the finger passing in all directions. The lung felt dense and boggy, not crepitant and elastic. On reintroducing the trocar, and puncturing the lung, pus appeared. The puncture was enlarged so as to admit the finger, and two pints of most fœtid pus escaped, rendering the room almost unbearable. A large drainage-tube, about six inches long, having been introduced, the cavity was syringed out with a weak solution of carbolic acid, and the chest was encased in carbolized tow, etc.

Before Christmas—that is, within a year of the commencement of his illness, and within nine months of the incision into the lung—the patient had resumed his active work.

Since writing the above, I have read with infinite pleasure the address of Sir Spencer Wells, delivered at the opening of the Midland Medical Society at Birmingham on November 5th last; and I cannot refrain from quoting one passage in it, at least, which bears directly on this subject, and which runs as follows:

"If I were reviewing modern surgery in general, and not limiting myself to the influence upon it of the revival of ovariotomy, I should speak hopefully of pulmonary surgery, of the draining of cavities in the lungs, of incising gangrenous lung, of resection of portions of ribs to contain contraction and closure of the pleural cavity; and of excision of parts of the lungs, or of an entire lung; even of the surgical treatment of purulent pericarditis. But these are subjects to which I can barely allude as proofs that we do not yet know how far we may go with rational surgery, or what may be in store hereafter for surgical enterprise."

Thus I have described to you cases in which secretions "pent up" in connection with the most important organs of the body, in the pericardium, in the pleura, in the lung, in the cavity of the uterus, have been successfully relieved by surgical interference, and, to add similar histories in connection with brain, liver, kidney and other important organs would be only too easy, but I will not waste your time by mere repetition. If I had notes of it I should have been pleased to have mentioned the other, in which, in consultation with Mr. Scattergood, I withdrew a large quantity of pus by the aspirator from the mediastinum of the chest; but as I have them not, I will refrain. I wish to draw a practical lesson from such cases, and to place you in the possession of knowledge which shall be of real practical service to you in your after life.

When I was your age such things as these were unheard of and undreamed of; now they are on substantial ground, and to you, I doubt not, it will be given, if life be spared to you, to carry them still further, and to achieve still greater triumphs. When I was your age he would have been a bold man who would have ventured, unless in presence of destructive disease, to make a direct and free incision into the knee-joint, whereas now we do so—shall I say with impunity?—well, almost with impunity, and certainly without much fear; but I have known death follow the simple removal of a loose cartilage from the knee-joint, and I have known many limbs amputated through the thigh for injury to the knee-joint, which we should never think of condemning now, and all this is the result of one only of the many great discoveries of our age.

Have you noted how often, in speaking of the foregoing lung cases, I have spoken of the "fœtid" discharges and of "fœtid" pus?

Have you noticed that "fœtor" was the distinguishing characteristic of the menstrual discharge in the first case, and has it struck you that in all the admission of air to the pent-up fluid was direct?

To us, in former days, here lay the great secret; we were well aware of that; and hence the carefully precise instructions that were given, to admonish us to keep out the air from all our wounds, our explorations, our burns and scalds, and so forth; subcutaneous incisions; valvular openings, tunnelling into abscesses—anything, everything, to keep out the air!

In all this, the first faint glimmerings of the dawn of better things may now be perceived; and, taken in combination with the fact that, having steadily fought the battle of the various dressings for wounds; the old and filthy poultices and cerates, under the influence of which I, when a dresser, have seen hundreds of maggots collect in twenty-four hours in an amputation-wound; the carefully neat, elaborate, painful and baneful dressing by tight plaster; the much-vaunted "water-dressings," and "dry-dressings," and "healing under scabs," we found men, like Spencer Wells, seeking to protect wounds, alike from the decomposition of the exudations on the one hand, and of the air on the other, by covering them with "pads of calcined oyster-shells and oil of tar," with thick layers of cotton-wool, and so on, you may be sure that we were running with a fine scent, and were pretty certain to "find" in the end!

It was, indeed, often noted that air, if closely filtered, might pass into the cellular tissue of the body without doing more than simply temporary harm, as in the case of fractured ribs with penetration of the lung, in which air so filtered by passing through the air-cells, though actually distending the areolar tissue to the point of disfiguring the body beyond recognition, was nevertheless speedily reabsorbed, if not evacuated, and did no real harm.

But to none of us, until Sir Joseph Lister arose, and drew aside the curtain from our ignorance, and showed us how the air we breathe, and which penetrates into the most hidden and secret recesses of our bodies, is laden with microscopic life and with germs, ready, the moment they alight upon a cultivable soil, to spring into life, and run riot in our wounds, our "pent up" secretions, was the revelation made that, to "sterilize" that air, was the only way in which septic mischief could be prevented, and surgery be rendered harmless.

Towards this now attainable end, we of the nineteenth century have only advanced a certain distance on the way; but, to some of you, it may be given to see the full fruition of our hope, and may you, gentlemen, bear your share in the good work.—*British Medical Journal.*

# ORIGINAL COMMUNICATIONS.

## MICROPHYTIC BIOLOGY.*

By Prof. GERMAIN SÉE, Paris, France.

### I.

In this paper I shall treat of microphytic life in general. I shall consider the functions of the micro-organisms, and then I shall describe the morphology of the principal microphytes; I shall then consider the conditions of their existence.

I shall finally speak of the biology of the pathogenic or specific microbes.

### PART FIRST—BIOLOGY OF THE MICRO-ORGANISMS IN GENERAL.

The biological study of the microbes of tubercle cannot be undertaken or understood without a previous notion of the parasite kingdom in general.

1. *Their Functions.*—In the circumambient medium the observer finds at the extreme limit of the visual range, reinforced by all the resources of optics, certain organisms, in quantity immeasurable, which, by their prodigious activity and their multiplication *ad infinitum*, play an immense role in the economy of nature and in the existence of man. They effect the destruction of inanimate organic substances by means of putrefaction; they provoke the most varied

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* Translated by Dr. E. P. Hurd, Newburyport, Massachusetts.

fermentations, and thus serve as indispensable auxiliaries to the digestion of our food. Other parasites invade the lowest, as well as the highest animals, and man himself. Living at the expense of their host, they take from him the elements of nutrition and the oxygen of the blood globules, and thus give rise to degenerations, lesions, special diseases, too often, to death. In all ways they play a destructive part, often for the good of nature, almost always for the evil of humanity.

2. *Their Diffusion.*—They are found everywhere in the exterior world, in the dust of the atmosphere, in the soil, in the water, especially in organic substances and in liquids exposed to the air. These same low organisms are with us in our habitations and in our aliments; they accompany us and continually revisit us; always and everywhere they may become detrimental to us.

3. *Their Contexture and Nature.*—All are formed by a single cell, comprising generally a cellular membrane, always a certain amount of protoplasm, never nuclei. This plasma is colorless and deprived of chlorophyl, and this is what distinguishes them from the algæ (Van Tieghen), their membrane is of protien nature (micro-protien of Nenki). In certain ferments it is formed of cellulose. It is this extreme simplicity of their structure which constitutes the difficulty of classing them in the different kingdoms of nature; the greatest part, as Cohn has shown, belong to the vegetable kingdom; their affinities are with certain plant-forms, which have a texture of the most elementary kind, a mode of propagation the most simple, but with a prodigious power of reproduction, namely, the microphytes. There are few that can be likened to animal organisms, and fewer still that remain without classification, but all are living, all are of the most varied forms, and metamorphose themselves in the strongest manner.

4. *Their Generation.*—Whatever may be their form or their dimensions; whether they present themselves with definite characteristics or in the state of germs or spores, it is known to-day that they do not spring into being spontaneously and form themselves out of non-living matter. If they never reproduce themselves after the manner of the higher organisms, their mode of multiplication is nevertheless not doubtful; all the tentatives made to develope these corpuscles in all sorts of nutritious liquids, have failed; all experimentations undertaken to prove their spontaneous generation since

the multiplied and always concordant researches of Pasteur, are, and ought to be, considered as vitiated by error.

5. *Their Vitality Proved by their Movements.*—What, moreover, proves the vitality of the microbes is that the far greater part are susceptible of movements which are spontaneous and have nothing in common with the amœboid movements of the white globules of the blood. They may be seen, in fact, to become agitated all at once, to move especially by their extremities, backwards or forwards, to turn about and change their position, even to execute a sort of creeping motion. These movements have been attributed to certain special organs—to cilia—but Van Tieghen considered these cilia as simple, passive prolongations of the cellular membrane, the movements being due to the contraction of the protoplasmic body of the cell.

It has always been noted that these movements are energized under certain conditions. According to Engelman it is especially oxygen and light which produce or augment them; on the contrary, when you agitate constantly the preparation, the movements diminish or cease.

## § 6.—MORPHOLOGY OF THE PRINCIPAL MICROPHYTES.

1. *Enumeration of the Forms and Species.*—The species which interest us the most are four in number: 1. Micro-cocci. The micro-cocci constitute a first species, forming simply round, globular, ellipsoidal cells, which are not connected together, and whose dimensions do not often exceed five-tenths of a millimeter. 2. Bacteria. Bacteria consist of elongated cylindroid cells, which are connected by little agglomerations so as to form short, thick, club-like forms. 3. Bacilli. The bacilli constitute simply a morphological variety of bacteria, although from a functional point of view differing notably; they are also composed of elongated and united cells, which form rods a little longer and thinner than the bacteria. It is to the bacilli that the parasite of phthisis belongs. 4. Spirilla leptothrix. This species comprehends corpuscles in the form of their filaments, whether simple, like leptothrix, or contorted, in spirals, as are the spirilla.

2. *Constancy of these Species.*—Hitherto, and especially since the labors of Cohn, it has been admitted that the above are true,

definite species, having characteristics and an autonomy of their own, never undergoing transformation into other bacteria forms. This view has nevertheless found numerous opponents, among whom are Nægeli and Buchner, who maintain that the hay fungus may become the bacterium of charbon, and that, moreover, both may take on the forms of micro-cocci or of filaments.

3. *Modifications of the Forms.*—What is certain is, that even in the state of complete development, bacteria and bacilli may present certain modifications of form, ordinarily suffering degeneration, undergo divers inflections, present divers articulations and dimensions, but without ever losing the physiological properties which characterize them. Thus bacilli, under the influence of certain vital conditions, undergo fragmentation ; the upper half preserves its normal state, while the lower half breaks up into very short joints furnished with a resisting membrane ; this peculiarity ought not to escape the observer who is looking for the bacillus.

This process takes place also whenever the bacillus finds itself in contact with certain irritating substances which are incompatible with the conditions of the parasite's existence, as, for instance, tincture of iodine. When the cells again find themselves in a normal nutritive liquid, they take on anew and rapidly the specific form, from which they came ; when, on the contrary, the unfavorable conditions persist, the entire colony ends by transforming itself into micro-cocci, which finally may lose their facility of development.

## § 7.—REPRODUCTION, MULTIPLICATION BY DIVISION OR BY SPORES.

1. *Division, Fissiparity.*—All the parasites, especially the bacteria and bacilli reproduce and multiply by two processes—first and generally, by division, second and more rarely, by development of corpuscles called spores.

The division or fragmentation takes place in this way ; the cell becomes constricted at the point of division, and the constriction increases, while the body of the cell augments in volume till it separates into two parts, which rapidly attain the primitive dimension of the mother cell.

The number of these cells may multiply to infinity, and certain parasites develope prodigiously by fission. Place a little fresh meat in distilled water in contact with the air, and you will see in a few hours the micro-cocci and bacteria which come from the surrounding atmosphere multiply to such an extent as to render the water turbid, and this turbidity is not in any sense due to substances derived from the meat and depositing themselves from solution in the liquid; the cloudiness arises from the colonies of parasites which arrive from without and completely saturate the liquid.

2. *Modifiers of the Reproductive Power.*—This power of multiplication augments or diminishes in and by certain conditions which are the same as those which preside over the nutrition of the parasites. Thus the pullulation is infinitely less active under the influence of light, and free oxygen, of very high temperatures, or of certain chemical liquids, such as the disinfectants, which, in a state of concentration, annihilate the vitality of the micro-organisms; when, however these chemical or physical conditions are no longer operative, the multiplication recommences, and is constantly accompanied with disintegration and destruction of the organized matters, as well as of the saline substances which are contained in the nutritive liquids.

3. *Spores.*—The parasites possess still another more powerful means of generation, namely, by corpuscles which are produced by an endogenous process in the cells; these are the enduring spores which are observed especially in the reproduction of bacteria and bacilli.

These spores, which are recognized by their refractive power and by their very characteristic double contour, are of round or slightly oral form, generally smaller than the cells which produce them, more resisting to agents destructive of the cells, more rebellious to the temperature which may mount up to 110° C., or sink as low as 110° C., without effecting their vitality; more refractory to boiling, which must be prolonged in order to kill them. At a certain temperature, in damp places, in nutritive solutions they easily transform themselves into young cells; in freeing themselves from their cellular envelope, they end in taking on the form of the bacillary cell; it is under this form that the bacilli live in the air; their generative power is to-day is established beyond doubt.

4. *Degeneration and Transformation into Zoogleia.*—It often happens that one finds in culture liquids entire colonies of microbes agglutinated by a thick gelatinous stratum, and to this aggregate has been given the name of zoogleia. Whether this gelatinous mass is developed by the agglomeration of microbic cells in a state of repose, or by

reason of the transformation of their membranes into a gelatinous substance, it is certain that the zoogleia-forms sometimes correspond to one and the same parasite species, and sometimes constitute a heterogeneous formation derived from an assemblage of different species, forming a sort of sample pattern of the microbe world. When composed of a single species, the mass may disaggregate itself into its constituent elements.

Sometimes a whole family of microbes transforms itself into a mucous protoplasm; is this the end of the tube's existence?

What is certain is that you will find a muco-gelatinous mass in all old cultures. We shall see later what part it has to play in the development of the tubercle bacillus.

### § 8.—CONDITIONS OF THE EXISTENCE OF THE MICROPHYTES.

The conditions of existence of the microphytes demand a rigorously correct analysis, opening as they do to the physician new ideas concerning the therapeutic indications and new horizons in the domain of hygiene and prophylaxis. This is a chapter of preventive medicine still unwritten. We have now to inquire, in fact, what are the nutritive organic and mineral elements of the microbes, what are the gases, what are the physical conditions of temperature or of light which favor or prevent the life of the parasites?

1. *Nutrition by Organic and Mineral Compounds.*—Differing from the algæ by the absence of chlorophyl, which ministers directly to the constitution of the cells of the latter, the microphytes draw their materials of formation and nutrition from organic substances, whether protein or carbon compounds. The ternary compounds are, so to speak, all utilized, whether they be acid oralkaline, provided that they be soluble in water. Among these furnishers of carbon we may enumerate the sugars, glycerine, amyl, the vegetable acids and benzoates.

Nitrogen is derived principally from the albuminates, on condition that they have been transformed into peptones, under the influence of a special ferment. The ammoniacal salts do not so easily supply nitrogen. They may, however, with sugar, suffice for the life of the ferments. The principal minerals are not less necessary to the nutrition of the microbes; sulphur is indispensable, and phosphorus is no less so; then the alkaline bases, potassa, lime and magnesia, are useful. Hence the best culture liquids contain peptone and sugar, with a bi-phosphate of potassium or sulphate of magnesia, leucine and sugar. The extract of meat contains already in its substance a certain number of potassic salts. The divers kinds of nutriment exercise, moreover, a certain influence on the vitality and the properties of the microbes; the bacteria of charbon may, in certain culture broths according to Buchner, lose their virulence.

2. *Concerning the Life of Micro-organisms, with or without Air.*—Pasteur, Schultzenberger, Traube and Grefeld began their researches by formally declaring that the microbes grow only by assimilating a great deal of oxygen and eliminating carbonic acid; but Pasteur, after numerous experiments and observations, came to the conclusion that if there is in the liquids of fermentation an obstacle to the access of air, the alcoholic fermentation is made more active, whereas, if oxygen be freely supplied, but a limited amount of sugar is destroyed. In other fermentations and in putrefaction the same phenomenon is observed, and the fermentive process attains its maximum only in the case of complete absence of oxygen. Still the growth and multiplication of the cells, as well as their *vegetative functions*, may continue in the presence of free oxygen, but it is the peculiar vital functions and properties which characterize them that cease; this is the distinguishing quality of the organisms which must be designated under the name of anærobian,* in opposition to those much more rare species which can neither exist nor perform their functions without atmospheric air, and which merit the name of ærobian.

This division, nevertheless, is not altogether free from objection, or rather, it does not imply an absolute distinction. In fact, the vegetative life and growth are not, in the anærobians, arrested by oxygen, which, with difficulty and only exceptionally, accomplishes the destruction of these parasites. It seems, then, as a fact gained to science, and as a general law, that the most diverse vegetal cells have the power of forming products of fermentation, and among others carbonic acid and alcohol, without oxygen taking the least part. But just here we have to note a controversy respecting this very subject (from every point of view so interesting) between Gunnig and Nenki. The first maintains that the microbes have need of an abundant supply of oxygen to sustain their life; that this gas was not wanting in the liquids of culture, and if it happens to be wanting, they derive it, as Pasteur teaches, from the oxygen principles of their untried liquid medium. They decompose the organic substances in which they vegetate, setting free oxygen, and live at the expense of the former. It is for this reason that the nutrient liquids of the microbes give rise to azotised products of oxidation (nitric acid or ammonia), or even to certain products of reduction which are disengaged under the form of ammonia or hydrogen.

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* "Formation in life without air."—*Pasteur.*

To this Nenki and Lakowitz reply that fermentation may take place even in an atmosphere of pure hydrogen. In another series of experiments they deprived of oxygen a flask fitted with a gelatinous solution which had been thoroughly sterilized (that is, rid of all its microbes); so well did they free the contents of the flask of oxygen, that the absorption bands of oxyhæmoglobin disappeared under the spectroscope, nevertheless fermentation and putrefaction were shown to take place in this flask.* Nenki concludes from this that if oxidizing processes are compatible with the presence of the anærobes they are never complete, that they are arrested at the first stages, and that along with carbonic acid only reduction products are formed which are independent of the influence of oxygen. Life without air, then, is the rule in micro-biology.

3. *Influence of Temperature on the Life and Properties of Microbes.*—Elevation of temperature acts favorably on the microphytes, as it does on all other plants; cold retards vital manifestations. It may be said, in general, that the heat of the human body is very nearly that which the most promotes the development of the lower organisms.

*Extreme Limits of Temperature.*—The growth and multiplication of the microphytes continue notably till the temperature has attained a determinate maximum, and are at once arrested when this is overpassed. This maximum varies with each microphyte, and may, moreover, rise or fall according to the quality of the nutritive liquid, according to the presence or absence of free oxygen. When the temperature continues to rise farther and farther above the maximum, the vital processes are enfeebled, and are finally arrested, especially in a moist medium; by hyperthermy a cadaveric rigidity is produced. But even in this state, under the influence of new conditions, the vital functions may reappear. Thus the bacterium of charbon, after having undergone suspension of its vitality, regains its vital and infectious properties in a slightly alkaline medium of extract of meat, and after an hour and a half of rigidity.* There exists also a very low degree of temperature which the bacteria cannot support; yet this refrigeration may be carried very far with impunity in the case of certain microphytes, and if Frisch has seen species survive a cold of — 110° C. in general they die or cease to multiply between + 5° and — 18° C.; with some this is the case at + 30°, and notably the tubercle bacillus.

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*This experiment is contradicted by the careful and thoroughly reliable observations of Tyndall and Pasteur. These experimenters have always noted absence of all fermentative or putrefactive change in their sterilized flasks, and this is, as everybody knows, the secret of preserving canned meats and fruits.—Tr.

*Influence of Temperatures on the Functions of the Microbes.*—Observers have remarked that certain temperatures compatible with the life of the microphytes, may nevertheless, by their variations, influence their vital properties. For instance, the bacterium of charbon, cultivated at 25° C., preserves all its virulent action which, however, at 36° C., diminishes sensibly, and continues to diminish with each successive generation.†

4. *Action of Temperature on the Spores.*—The action of high or low temperature on the spores is still more marked, but on their formation it is different. Thus the formation of the spores is singularly influenced by the degree of temperature of the nutritive liquid; the bacterium of charbon, cultivated at 35°, forms its spores in twenty hours; at 18° it requires about three days; at 15° the production of spores does not take place.‡

*On their Reproductive Power.*—Likewise the reproductive power of the spores demands a temperature of 35° to 37° C.; below this point they do no longer engender bacteria.

*Resistance of the Spores to the most Extreme Temperatures.*—But what the physician should not forget is the enormous resistance of the spores to the most extreme temperatures.

While bacteria and bacilli cannot in general vegetate above 90° C. or below 30°, their spores resist a heat of 110° C., and often even a prolonged boiling of many hours' duration.§ In the dry state they support a still more elevated temperature. Exposed to the most intense cold, the pores are even more refractory; Mignel has seen them resist a marked refrigeration of 60° below zero; Pictel has known them to survive a temperature of — 110° C. It is from this extreme resistance of the spores—bacillary and bacteridian—that arises the great difficulty of purifying the air and ridding it of morbigenous germs.

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* Buchner. † Buchner. ‡ Koch. § Buchner.

5. *Action of the Light on the Microphytes and their Spores.*—It has been claimed that in consequence of the absence of chlorophyl the microphytes are not influenced by the action of light. But if it be true that the light does not decompose for them carbonic acid and set free oxygen, as it does for the algæ, it none the less affects their vital actions, and especially the ciliary movements, for in the darkness the latter undergo arrest at the end of a time proportioned to the intensity of the previous illumination. This is an important fact, carefully observed by Engleman.

*Resumé.*—Hence the vital conditions of the microphytes are determined; their kind of nutrition, their mode of respiration, their relations to temperature, light and movement are known; to their hygiene we are obliged to oppose our own.

(To be continued.)

# CURRENT LITERATURE.

## THE BROMIDES.

SIMON (Dr.) JULES. "Les Bromures."—*Conférences thérapeutiques et cliniques sur les Maladies des Enfants*, Vol. II.

Among the new remedies which this century has produced there is not one which has been more widely used than bromide of potassium. Discovered by Balard in 1826, it was not utilized to any extent in medicine till towards 1856, when it was tried as an antisyphilitic by Ricord and Pache. [Dr. Garrod made some extensive trials of the drug in 1854 in specific skin affections.—Tr.] Soon after its efficacy in epilepsy and other nervous diseases was established by Locock, Brown-Séquard, Gubler and others. These observations led to a more extended use of the drug, as is evidenced by the fact that in the Central Pharmacy of the Paris Hospitals, in 1855, three kilogrammes only were called for, while in 1870 this amount had risen to 389 kilogrammes, and in 1875 to 730 kilogrammes.

The author, in considering the uses of the bromides in diseases of children, says he has but little experience in the uses of the ammonium and sodium salts, the latter especially, as it is a deliquescent and unstable chemical compound. He, however, speaks well of the polybromic solution of Yvon, which contains twenty grammes of potas. bromide, to 300 grammes of syrup, of which a tablespoonful contains one gramme of the mixed salts.

The physiological effects of bromide of potassium are in the first instance exercised on the mucous membrane of the alimentary tract; it diminishes the sensibility of the pharynx, excites the mucous membrane of the stomach, increasing the appetite; in larger doses, especially in infants, it is apt to give rise to gastric irritation and diarrhœa. In older children the habitual use of the bromides, as in epilepsy, is apt to cause constipation. After absorption it depresses the action of the heart and slows the pulse, and is useful in some forms of heart disease, but it is apt to increase the dropsy if present. At times it appears to give rise to bleeding at the nose. It appears to cause a contraction of the arterioles of the nervous centres an skin, and blunts the sensibility of the mucous membranes of the urethra and bladder. The urine is increased. The continued use of the bromides is apt to cause various cutaneous eruptions, as acne, erythemas, and boils. Some children are so sensitive to the action of bromides in this way that it is almost impossible to give them the smallest doses.

The uses of the bromides in infancy and childhood are various. In the convulsions of infancy, after attempting to combat the exciting cause, as evacuating the bowels, three to six grains are given daily in two doses to infants under two years of age. The best time is with meals, so as to lessen the chance of irritating the stomach, and the medicine should be omitted after four or five days.

In epilepsy in children of four or five years fifteen grains daily in three doses may be given at first, augmenting the amount if no effect is produced, and continuing the medicine for fifteen to thirty days after the cessation of the attacks. The epileptics who resist bromides are sometimes amenable to atropine, or these drugs may be given alternately.

Children of eight to ten years, who are growing rapidly, and whose brains are easily fatigued by study, frequently suffer from headaches, which come on daily, and probably suggest to the friends the onset of tubercular meningitis. This condition may bé combated with bromides in association with other means to restore the general health.

Bromides are also useful in sone forms of functional heart disease, to which boys of fourteen to fifteen years of age, who are given to violent exercise, are subject. They perhaps suffer from palpitations, a feeling of constriction over the cardiac region and dyspnœa. These symptoms are sometimes accompanied by a transitory hypertrophy, without any signs of valvular disease.

In some cutaneous eruptions dependent upon irritation of the nervous system, as pemphigus and prurigo, bromides may be usefully employed.

HENRY ASHBY.

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KINNIER (D. F.). "Remarks on Otorrhœa in Children."—*American Journal of Obstetrics*, November, 1884.

Dr. Kinnier takes as an illustrative case a strumous child aged six years, who had been deaf for two years, and had struck the left side of his head three months before coming under observation. Shortly after this accident otorrhœa on the left side set in, which subsided in five minutes' time, but recommenced subsequently, and the child was brought to the hospital. After being under treatment for six weeks without improvement, a swelling over the mastoid inflammation, which were treated in the same way, and during the last attack a polypus was discovered in the meatus, which was removed. The case resulted in perforation of the membrana tympania with complete deafness.

The author seems to prefer treating otorrhœa by the insufflation of dry powders twice daily, and specially mentions boracic acid. He very properly condemns the practice of stuffing the meatus with some astringent powder and closely packing it in with cotton wool. If treatment by lotions is employed, the author recommends several, such as:

| | | | |
|---|---|---|---|
| Acid Carbol. | gr. iv. | Acid Carbol. | gr. iv. |
| Zinc Sulph. | gr. iv. | Sodæ Bicarb. | gr. xij. |
| Aq. | oz. i. | Sodæ Bibor. | gr. xij. |
| | misce. | Glycerin | dr. ss. |
| | | Aq. | oz. i. misce. |

He also mentions the benefit derived in these cases from the use of the Politzer bag.

When symptoms of mastoid inflammation occur, he recommends that, after the application of leeches, the affected region be painted by a strong solution of nitrate of silver, or by some preparation of iodine, to be followed by warm applications. The object of the treatment is to cut short, if possible, an impending periostitis.

Dr. Kinnier does not allude to incision of the membrane, the performance of which, at an early stage often prevents disastrous consequences, especially when the ear mischief sets in during the course of the exanthemata. In the treatment of suppuration of the mastoid cells he also omits to mention that it is occasionally necessary to trephine the mastoid process before relief is afforded. The avoidance of poultices to the external ear is not insisted on, although these applications are condemned by Hinton and others as promoting perforation and stimulating the growth of granulations. Another practical point which might have been mentioned is the great advantage of having all ear lotions slightly warmed before using.

A. M. Edge.

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Wolf (Dr. August). "The Prophylaxis and the Treatment of Thrush and Intertrigro in Infants."—*Archiv für Gynækologie*, XXIV. 3.

Intertrigo and thrush have almost completely disappeared for the last twelve years in the Leipzig Lying-in Institution, through special precautions, consisting mainly in the observance of the most scrupulous cleanliness. The percentage has been reduced to 0-8 per cent. for thursh and 0.9 per cent. for intertrigo.

Digrammatic tables are given indicating the cause of both diseases. From these it would appear that summer had not, as has hitherto been considered, a predisposing influence upon the development of thrush. The most marked increase in the number of cases coincided always with the periodical changes in the staff of nurses, and is easily explained by laxity on the part of the retiring nurses and ignorance on the part of those who came to fill their places.

It is well known that atrophy and weakness of children predispose to thrush. Accordingly a double measure of attention is required in the care of premature and weakly children.

The opinion of Valleix, that intertrigo of the anus is a symptom inseparable from the development of thrush, is quite negatived by Wolff's observations. Only four times did thrush and intertrigo occur together, and only twice was there a combination of thrush, intestinal catarrh and intertrigo. The first set of cases is explained by the operation of the factor, viz: want of due cleanliness; and it is easy to see in the second set of cases how the frequent fluid motions favor the occurrence of intertrigo.

The mode of feeding and the kind of food are also important factors. Children at the breast are less prone to thrush than those brought up on cow's milk, and these again less so than those brought up on the various sorts of artificial food. The causes of this are two-fold—the quantity of sugar in these foods, and the deficient vitality of the children brought up on them.

As regards fatality, intertrigo is a painful but not deadly complaint; thrush is more dangerous by limiting nutrition, and that generally in children of low vital power.

Quite recently in Epstein of Prague has asserted that in consequence of too frequent cleansing of the mouth of infants, the delicate epithelium of the mouth is injured, and a nidus thus made for the development of the fungus of thrush. Epstein accordingly disapproves of washing out the mouth at all. Sufficient clinical experience of this negative mode of treatment has not yet been obtained.

The method pursued in Leipzig is this: Several times a day the infant's mouth is carefully wiped out with a soft linen rag dipped in pure cold water. Should the thrush actually break out, the same treatment is persevered with, only more frequently. If the case becomes severe, the mouth is painted with a solution of five parts of borax to twenty-five parts of honey. Honey has been objected to theoretically from its easy decomposition, but clinical results do not bear out the objection; besides, the children like it, and it gets well distributed over the mouth.

Intertrigo is guarded against by washing the soiled parts with pure cold water after every motion. If the intertrigo is once established, the parts are still carefully washed with pure cold water and a piece of plain dry wadding inserted between the opposing surfaces. No medicated ointments or powders are used in any case.

These are the simple means by which the occurrence of these diseases in the Lying-in Institution has been reduced to a minimum. The nurses receive a thorough training, and on leaving the institute disseminate the information among the public.

JOHN SCOTT *in Medical Chroniicle.*

## PHENOL CAMPHOR.

Dr. Theodore Schaeffer, of Beecher, Illinois, in the *Boston Medical and Surgical Journal,* January 8, calls attention to a new compound of camphor and phenol (carbolic acid). It is obtained by heating crystalized carbolic acid until it melts, and then gradually adding camphor; a clear liquid is obtained, which is characteristic on account of its permanency. Equal parts of carbolic acid and camphor are used. It has the fragrant odor of camphor, and can be employed in toothache, and in skin diseases of cryptogamic origin. It is soluble in alcohol, chloroform, ether and ethereal oils, and mixes well with paraffin, cosmoline, and many oils. It is a good antiseptic, and is a good local anæsthetic for in-growing toe nails. [A similar, if not identical, preparation is noticed in Wood's Therapeutics, citation of authority dating as far back as 1877.—ED.]

# EDITORIAL.

## THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## THE MEDICAL PROFESSION OF NORTH CAROLINA LEGALLY RECOGNIZED—THE PENALTY FOR PRACTISING WITHOUT A LICENSE—THE NEW NORTH CAROLINA BOARD OF HEALTH.

It is a proud day for the medical profession of North Carolina. The efforts of all these long years have received the sanction of law, by the Legislature, and the profession has begun a new career of usefulness. Now we can see, as we never saw before, how greatly our cause depends upon the "line upon line" presentation of the subject. Committees had been appointed to wait on the Legislature at nearly every meeting of the Medical Society since its formation, but with the exception of the success achieved in 1858–'59, when the first license law passed, nothing worthy of the name had been done for us by the State. It is true that a skeleton law framing a State Board of Health was grudgingly enacted in 1876, "thrown to the Medical Society as a bone thrown to a hungry dog," as one of our leading members truthfully remarked, but it was plainly evident that the State intended the law should die by inanition. In the light of present affairs it is amusing to remember with what amiability the Society awarded to one of its members exemption from dues for his life-time, and to another exemption for four years, for their success in getting this same worthless law enacted.

Things have changed since those days, and after weary years of nursing and teaching, in face of opposition without and timidity within, our Society, we have the satisfaction of recording that the auxiliary bodies of our Society, the State Board of Medical Examiners, and the North Carolina Board of Health, are at last safely grounded in the laws of the State.

It will be seen by examining the license law, the full text of which is given on another page, that the old law was amended as follows: The clause declaring that *it shall not be a misdemeanor to practice medicine without a license* was repealed. Further on a section was amended so as to read that on and after the date of ratification (February 23) that any person who shall practice medicine, or surgery, or any of the branches thereof, for fee or reward, without the license of the Board of Examiners, shall be deemed guilty of a misdemeanor, and subject the offender to fine and imprisonment, at the discretion of the court. The law does not apply to women pursuing the avocation of midwives, nor does it apply to regularly licensed physicians practising on our border lines, or licensed physicians called into this State from another State. Very properly the new law has no retrospective application, and of course does not alter the status of those physicians now in practice. It must be remembered, though, that all of those physicians who came into practice since 1859, and have not been licensed, are still debarred from the collection of their claims by legal process.

As gratifying as our success has been, so far, it will not become us now to sit idly by and expect the new law to take care of itself. The State Medical Society would do well to appoint a committee in each Congressional, or Judicial, district, to assist in its prosecution. Cases will arise pretty soon, and if it is left to average grand juries to present offenders, we need not look for its vigorous enforcement.

The Society could well enough aid in the expenses of legal action in certain necessary cases.

The work of the Board of Examiners will be largely increased, and we presume that the new board, which holds its first session in Durham, in May, will begin its work on the day preceding the meeting of the Society, and allow themselves ample time.

The North Carolina Board of Health will organize under the amended law, at a meeting to be held in Raleigh on the 20th of March. At this meeting a new member will be elected, a President elected to succeed the lamented Whitehead, and the Governor will send in his appointments to fill vacancies, three in number. At the Durham meeting of the State Medical Society there will be an election to fill the then expired terms of two members.

It will be seen by these statements that there will be quite a change in the composition of the Board of Health, and we trust that it will be greatly for the better.

We are specially gratified to state that in addition to the amount appropriated for the maintenance of the Board, and for printing, the Legislature has appropriated $2,000 to be used only in case of the invasion of the State by cholera or other pestilential diseases. As small as this sum is, if rightly and promptly applied, it will serve to allay panic, and, we trust, limit or suppress the first cases of pestilence. Because North Carolina has for fifty years escaped cholera (we were indebted to Cornwallis and Sherman for the introduction of small-pox), there is no reason now, with the multiplication of highways of travel, that we may not have a visitation like our daughter Tennessee had a few years ago.

Our thanks are due to the seven doctors in the Senate, and to Dr. McNeill in the House, for the broad views they were able to inculcate in the Legislature, thus making success possible. Other friends we had in both Houses, of course, and their names will be held in grateful remembrance by the profession. At last the North Carolina profession has made distinct progress; it now rests with the individual members of the profession to see that it still pushes forward.

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Dr. James F. Reeves, of West Virginia, has resigned the Secretaryship of the West Virginia Board of Health on account of ill-health.

## COUNTY BOARDS OF HEALTH.

Circulars will be sent out at an early day asking for the assistance of the County Superintendents of Health for information as to the present condition of the Boards in their county. We trust that every one who sees this article will write at once to the Secretary of the State Board at Wilmington, giving him all the information as to the present and future prospects of their County Board. The recent laws make it possible now to have an active, working Board in each county, and all the energy that the State Board can command, will be enlisted in the labor of reorganization.

Copies of the amended law will be issued in a few days, and County Boards will be supplied with the number of copies they desire.

Let us all work earnestly. The State's concession to us makes it highly incumbent on the entire profession of the State to aid in building up the State Board of Health. After the success the Medical Society of North Carolina has had in building up the puny license law to its full stature, we may well be confident of our power to make this a vigorous success.

Nutmeg in Large Quantities is Poisonous.—It seems to be a forgotten fact that nutmeg is poisonous, although it is so stated in the National and United States Dispensatories. Dr. Palmer, of Monticello, Florida, sends an item to the *American Journal of Pharmacy* of a lady who had violent poisonous symptoms from eating one and a half nutmegs—about 135 grains, whereas the dose is from 5 to 20 grains.

Aspiration of Small-Pox Pustules.—Dr. J. M. Jackson, of Columbus, Kentucky, reports (*Mississippi Valley Medical Monthly*) that he is satisfied that the duration of a case of small-pox is lessened by five or six days by the aspiration of the pustules with a hypodermic syringe. By this means the absorption of pus is prevented, and secondary fever mitigated. It seems to us this is well worthy of extended trial.

# REVIEWS AND BOOK NOTICES.

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TYPHOID FEVER AND LOW WATER IN WELLS.

We are indebted to Dr. Henry B. Baker, the able Secretary of the Michigan Board of Health, for a copy of his paper on "The Relation of the Depth of Water in Wells to the Causation of Typhoid Fever." Like all of the public-health writing of Dr. Baker, it is founded upon pains-taking observation, and gains at once an attentive reading. Dr. Baker has been in practice for a long time with the diagrammatic methods of presenting hygienic problems, and the utility of his methods are more and more apparent, and, by the way, his skill in employing them greatly improved.

He shows by a table of the records of cases of typhoid fever that the greatest number occurred in August, September, October, November and December, and also that beginning with July, 1881, the sickness reported from typhoid fever was about 50 per cent. greater than the average for corresponding months in the five years (1878–1882), and it continued at this high rate until April, 1882.

In a second diagram he summarizes the evidence from the regular correspondents of the Michigan Board of Health, and shows that in quite a number of localities observers have made records which show either a coincidence between the low water in wells and sickness from typhoid fever, or that the fever occurred in months succeeding the low water. Another closely related physical condition, it would seem, may have an influence in the causation of typhoid fever, namely, the temperature of water in wells, and the condition of the fluids of privies, but it is difficult to see how they can have *great* influence. It appears from the tabulated evidence that there is a relation between low water in wells and the prevalence of typhoid fever; that this relation is found to hold by seasons of the year—those months in which the water is lowest (or the months immediately following), being the months in which typhoid fever is most prevalent; and the unusual year 1881–'82 when typhoid fever was more prevalent than ever known before (in Michigan) was also unusual because of the exceeding low water in wells.

Considering it established that to the low water in wells is due the prevalence of typhoid fever, he propounds the following:

1. Is there a quantitative relation? That is to say: Is the amount

of sickness from typhoid fever proportional to the amount of water in wells?

2. Does the drinking water cause the typhoid fever?

3. What constituent of the water causes the typhoid fever?

4. How can typhoid fever be prevented?

5. What need is there for the prevention of typhoid fever in Michigan?

We give in conclusion quite lengthy extracts from this paper for the benefit of those of our readers who are giving renewed attention to the study of public health questions:

"HOW IS TYPHOID FEVER INDUCED BY LOW WATER IN WELLS?

"The evidence of the causation of typhoid fever by low water in wells will not be accepted by some persons, because they do not understand, at first sight, how the disease can be thus caused. Several persons to whom I have presented some of this evidence have replied that they could understand how dilution of a *poison* would lessen its effects; but that if typhoid fever is caused by a specific organism, they failed to see how the low water in wells could cause the disease. A study of the relations of privies to wells, and the statement of certain facts may aid such persons to an understanding of how it is possible to explain such mode of causation.

"Herewith I submit a diagram showing a privy and a well under two circumstances; in one case the water in the well is low, and in the other case it is high. It would seem that when the level of the water is the same in the well as in the privy, there would not be likely to be a mingling of the water from the privy with that in the well, unless the distance between them was small. But whenever and wherever the water in the well is below the bottom of the privy not far distant, there will be a strong tendency of the fluids cast in the privy to pass downward toward the water in the well; or, if not directly to the well, to the ground-water not far distant, which will pass into the well to replace that which is drawn. The quantities of solid and liquid filth deposited in privies probably do not vary much from month to month, except that because of diarrhœa in the hot months of July and August, more fluid fecal matter probably enters them. The suppposed causation of the regularly recurring increase of typhoid fever in the autumn, by discharges from persons suffering from diarrhœa gaining access to the drinking water, is referred to in another part of this paper. That is only one way of rendering the water foul, or, as we might say, nutritive to bacteria; and it is quite in keeping with the other evidence referred to in this paper, as to outbreaks of typhoid fever after the use of water contaminated by decomposing animal and vegetable matter. The explanation of all these lines of evidence would seem to be that either the ordinary bacteria of decomposition cause typhoid fever, or that the specific cause of the disease is quite generally distributed, *and is capable of self-multiplication outside of the body*, whenever it falls into fluids sufficiently nutritive. But even if the cause of the autumnal increase of typhoid fever is the diarrhœa which precedes it, and which is itself caused directly or indirectly by the high temperature—even then, it would seem that under present circumstances the quantities of water in wells controls the rise and fall of typhoid fever; because the relation which the curve representing diarrhœa bears to the curve representing the fever is not closer than is that borne by the curve representing water in wells; and it is probable that it is only by passing into the drinking water that the discharges help to cause typhoid fever.

"In the early autumn, also, there is more than the usual likelihood of a *specific cause* being introduced into certain wells, because then surface supplies of drinking water, wash water, etc., are diminished to such an extent that unusually large drafts are made on the wells. This increased use of well water would lead to the drainage of an unusually large territory around the wells, with a consequently increased danger of contamination from privies infected by typhoid excreta.

"I think we may now safely assume that there is a greater dilution of the dejections from typhoid fever patients, and of human excreta generally, when the water in wells is high than when it is low, except when the low water is caused by a frozen ground which locks up the excreta on the surface of the earth. It cannot yet be positively asserted that the specific cause of typhoid fever is reproduced outside of the body in nutritive solutions at the temperature of water in wells; yet this may be found to be possible, or, if not in wells, in the higher temperature of privy pits, from which they may pass into the well' either at once in the form of mature bacilli, or after a time in the less perishable form of spores; and if typhoid fever is caused by the ordinary bacteria of decomposition, as many seem to believe, then we must consider that lessening the quantity of water in wells would probably (except as just mentioned) lessen the dilution of the fluid derived from privies, and consequently increase the proportion of bacteria thus introduced into a given quantity of well water; and not only this, but the proportion of albuminoid matter suitable for the rapid reproduction of bacteria would then be increased; and, bearing in mind how rapidly the reproduction of bacteria occurs under such circumstances, we can well understand how in such a "culture fluid" there would soon be something of very much greater import than simply what would result from a lack of dilution of a fluid containing some organism or poison not capable of self-multiplication. Then, again, the ordinary bacteria are known to be frequently in much greater abundance on the surface than elsewhere in a liquid, because of their requirement of air; therefore a much greater proportion of bacteria would be likely to be drawn up by a pump reaching to the bottom of a well, when the top of the water falls to near the opening into the pump.

"Many years since Chauveau performed a series of careful experiments with vaccine virus diluted with constantly increasing quantities of water, when he found that the proportion of successful vaccinations was correspondingly decreased. Under these circumstances it appeared that whenever there was a lodgement of the virus the development of the case proceeded regularly to the close; but with large quantities of water the proportion of such cases of successful vaccination was very small. I suppose that no one now doubts that vaccinia is caused by specific particles which are reproduced within the body (it is now many years since vaccinia was shown to be due to a "particulate" cause, and those same experiments by Chauveau had much to do with establishing that fact; however, Dr. Bourdon-Sanderson's experiments verified those made by Chauveau, and have been considered sufficient to establish this point). The two points just alluded to (the lessened chance of vaccination with diluted virus, and the fact that vaccinia is a specific disease) may serve to remind those who have not held these facts in mind, that *dilution of a fluid containing the specific cause of a disease lessens the chances of commnnicating that disease* when the fluid is brought in contact with the body.

"An objection has been offered that the variations in the amounts of water in wells, as shown by the diagrams, were too slight to account for so great differences in the prevalence of typhoid fever as are shown to occur in Michigan in the months of June and October. The reply is that the variations shown in the diagrams are mostly averages of several wells, and that in one of the wells included in the average for the year 1881, the amount of the variation was from twenty feet of water in the month of June, to no water whatever in the month of September. Besides this, the wells measured are not the wells the water of which actually caused the typhoid fever in Michigan, but they are only examples of how the water rose and fell, on the average; it is probable that many wells (besides one of those observed) were nearly dry at some period during or following the extreme drouth of 1881.

"An instructive inference from the evidence which I present is either that the cause of typhoid fever does not long remain in the well water in an active form, or that the dilution is so great as to reduce very greatly the chances of its producing the disease. As the water lowers in summer the typhoid fever cause is apparently quick to act; and as soon as the autumnal rains filter into the wells, its action quickly disappears, although it must be admitted that at no time of the year is the State entirely free from typhoid fever; and it is quite possible that the rapid subsidence of typhoid fever after the autumn rains is simply because of the extreme dilution of its cause in the wells.

### "HOW CAN TYPHOID FEVER BE PREVENTED?

"If the evidence which I have presented is conclusive, the reply to the above question may be stated in four words, namely: *Stop drinking contaminated water.* This might not prevent *all* the typhoid fever; but it would appear that by far the greater proportion of it in Michigan may reasonably be expected to be thus preventable. How to prevent the contamination of the various water supplies, cannot be so briefly stated; but if people care enough about it to take the necessary trouble to do this, sanitarians can tell them how. So far as it relates to typhoid fever, it *may* be that all that is necessary is to destroy and keep out of the water all discharges from persons suffering from typhoid fever; but the difficulty of recognizing the disease early enough in its course is so great, that in order to do this it will be necessary to keep all human excreta, and perhaps the excreta of some animals, out of the water supply. Most people think they do this now, or probably we would not have a thousand deaths a year in one State from this cause; but I think we have reason to believe that their confidence in the purity of the water they drink is misplaced, and that consequently many of them sicken and die. The numerous instances where typhoid fever has apparently been caused by drinking water contaminated by decomposing *vegetable* matter, indicate that, even if the cause of the disease is specific, until such time as that the specific canse shall be so restricted as not to find access to water supplies, it is important to preserve the water from contamination by vegetable as well as by animal matter."

LECTURES ON DISEASES OF THE NERVOUS SYSTEM, ESPECIALLY IN WOMEN. By S. WEIR MITCHELL, M.D. Second Edition, Revised and Enlarged. With Five Plates. Philadelphia: Lea Brothers & Co. 1885.

This valuable volume has for a long time been out of print, but the author has in the meantime revised and enlarged it. For those of our readers who are not familiar with it, we ask their special attention to its merits. It is a small octavo of 280 pages, clearly and beautifully printed, with the slightest number of typographical errors. It is not a regular treatise on nervous diseases, but discusses those exceedingly difficult cases among women, in an entertaining and highly instructive manner, the illustrative cases being drawn from the author's case-book.

The following captions of some of the chapters shows that the author has undertaken those very difficult forms of nervous diseases which puzzle and perplex us daily: The Paralyses of Hysteria; Hysterical Mortor-Ataxia—Hysterical Paresis; Mimicry of Disease; Unusual Forms of Spasmodic Affections in Women; Tremor; Chronic Spasms; Chorea of Childhood; Habit of Chorea; Disorders of Sleep in Nervous or Hysterical Persons; Vaso-Motor and Respiratory Disorders in the Nervous or Hysterical; Hysterical Aphonia; Hysterical Joints; Hysteria and Organic Disease of the Spine; Gastro-Intestinal Disorders of Hysteria; The Rectum and Defaecation in Hysteria; The Treatment of Obstinate Cases of Nervous Exhaustion and Hysteria by Seclusion, Rest, Massage, Electricity and Full Feeding.

Not a chapter can be read without engaging the undivided interest of the reader, although some chapters will prove of vastly more importance to one reader than another. The chapter on The Disorders of Sleep and on Chorea brings out new facts in abundance, and these are all logically arrayed in a style and form that has not been attained by writers on similar topics.

The author's study of the relative frequency of chorea among the whites and blacks coincides with our observation on the same subject, viz: that chorea is rare among pure negroes. Since Dr. Mitchell sent out circulars of enquiry, several years ago, we have diligently inquired into cases of chorea among negroes, but only one case has been discovered in as many as ten years.

Dr. Mitchell in this little book has gone deeply into the mysteries of hysteria and lighted up many a dark corner, which to the general practitioner will prove a practical benefit. His treatment is disfinguished by the most sparing resort to drugs, but by a careful attention to every method of diagnosis, as a means to a rational method of treatment; and still the author frankly admits, "We now know nothing of what constitutes the physical basis of the disorder we call hysteria." This is not the book for the doctor seeking for prescriptions "good for" nervous disorders—there is not a prescription to be found in it—but it will be greatly prized by those who will take time to read and inwardly digest it, and to all such we commend it.

HUMAN OSTEOLOGY. Comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone and its Development. By LUTHER HOLDEN, ex-President of the Royal College of Surgeons, Assisted by JAMES SHUTER, F.R.C.S., etc. With numerous illustrations. Sixth Edition. New York: William Wood & Co., 56 & 58 La Fayette Place. 1885.

This is a well-known volume. It has stood the test of time, and has reached its sixth edition in England. There are numerous illustrations, apparently lithographed, but probably only "processed," but giving many good drawings of the bony frame. The points of attachment of muscles are indicated upon the proper regions in the figures, after the plan of Gray's anatomy.

Mr. Holden knows how to make the dry bones talk. This comparative anatomy of the lower animals, which he contrasts as he goes along, is highly interesting, and his statements of the architectural design of the different bones is very instructive. The discussion of the mechanism of the bones and their uses is, after all, the most satisfactory way to impress their anatomy on the mind of the student. We trust now that the Messrs. Wood will give us Holden's Anatomy of the Soft Parts during the year, and so add greatly to the value of their now almost indispensable Library of Standard Medical Authors.

MANUAL OF NERVOUS DISEASES AND AN INTRODUCTION TO MEDICAL ELECTRICITY. By A. B. ARNOLD, M.D., Professor of Diseases of the Nervous System, College of Physicians and Surgeons, Baltimore. With Illustrations. New York: J. H. Vail & Co. 1885. Pp. 170.

Professor Arnold has given us here a text-book for students, on diseases of the nervous system, as he was convinced in his experience as a teacher that "the standard works on this subject are little suited to the wants of the beginner, who is not prepared to profit by the study of elaborate treatises."

The anatomy and physiology of the nervous system is given in twenty pages, and illustrated with four plates. The other illustrations are Ziemssen's motor points in the chapter on Medical Electricity. The author has carried out the design of his work satisfactorily, and we believe it will be read by students to the exclusion of other text-books.

THE MEDICAL CHRONICLE.

This is a new medical journal, published monthly in Manchester, England, under the editorship of James Niven, M.A., M.B., and W. J. Sinclair, M.A., M.D. We have received the first four numbers, and welcome it to our exchange list as a valuable acquisition. It is octavo in size, beautifully printed, and edited upon the same principles and with the same ability as was exhibited in the New York *Medical Journal* before it became a weekly. Those of our readers who desire a monthly English journal, with well digested and practical original articles, and the cream of foreign journals in abstract, could not do better than subscribe. Price per number 1s. 6d. Address *Medical Chronicle*, Manchester Chambers, Market street, Manchester.

INSANITY CONSIDERED IN ITS MEDICO-LEGAL RELATIONS. By T. R. BUCKHAM, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1883. Price $2.00.

When are we to see the end of book-making on the subject of insanity! Good books come out, satisfy the readers of them for a short time, and then we are ready for the next new volume. Restlessness may not be any more marked on the subject of insanity than in other departments, but surely it is a subject that needs frequent revision.

This volume will well repay a careful perusal. The chief object the author had in view in the preparation of it was to point out the pernicious uncertainty of verdicts in insanity trials, with the hope that by arousing attention to the magnitude of the evil, at least, some of the more objectionable features of our medical jurisprudence may be removed; to faithfully call attention to the more prominent causes of that uncertainty; "to hold, as 'twere, a mirror up to nature; to show virtue her own feature, scorn her own image;" and with the most friendly feelings for both his own and the legal profession, to criticise severely, and to censure when necessary, not the individuals, but the system which has made insanity trials a reproach to courts, lawyers and the medical profession. With this declaration in his preface the author faithfully set himself to his task.

The legal tests or criteria of insanity as expressed by learned judges are given, upon which he makes the following resumé:

In the foregoing comparatively few utterances of the courts, what phase or degree of responsibility has not been authoritatively affirmed and authoritatively denied? An insane person cannot be tried for crime; insanity must be absolute; partial insanity sufficient; the insane must be punished as a warning to others; punishing an insane person extremely cruel and inhuman, and no warning to others; must know right from wrong *at the time, and that the act charged was wrong;* insanity must be proved beyond a doubt; a preponderance of proof of insanity sufficient; if any reasonable doubt of insanity exists, acquit; the onus of proof of insanity on the defence; the onus of proof on the State; medical opinions and theories in insanity cases are vicious; medical experts know all that is known on the subject; judges and lawyers profoundly ignorant of insanity; expert testimony of high value; expert testimony worse than valueless; and last, but not least, *there are no legal tests of insanity.*" For all these contrarient opinions he gives full verbatim quotations in the appendix.

The author thinks that by the aid of the "*physical media*" theory which he has introduced and fully established, by abolishing legal tests of insanity, so-called, and by securing efficient, trustworthy expert testimony in every trial, he believes that the disgraceful, haphazard trials of the past and present will give place in the future to trials as orderly, and in which verdicts will be regarded as certain and trustworthy, as those in any other class of cases before the courts. The author lays considerable stress upon the fact "that there is not an Alienist in the United States who believes that insanity is a disease of the mind," and that by reason of their education and special opportunities for the study of their specialty they ought to be considered as speaking *ex cathedra* on the question. He believes this attitude of the beliefs of the superintendents of the insane to be the proof par excellence of the "physical media theory."

One hundred pages are devoted to the discussion of "Who are Experts?" General medical practitioners are not experts in insanity, and non-experts ought not to be allowed to give evidence as experts, and that the results are pernicious when so allowed. Unfortunately, though, for the assumption of the superior excellence of expert testimony, recent trials do not impress thinking people with the idea that any standard has been attained by the experts above referred to, which might lead to a tolerably just determination of insanity. The truth is, some superintendents of insane asylums may be experts and others not, and we do not see how a practical solution of expert testimony is to be arrived at by relegating it to this very learned and humane branch of the medical profession.

This little volume is admirably indexed, and, indeed, it is so far superior to many excellent works we have had under review, in this particular, that it deserves the highest condemnation.

THE DIAGNOSIS AND TREATMENT OF CHRONIC NASAL CATARRH. Three Clinical Lectures by GEORGE MOREWOOD LEFFERTS, A.M., M.D. Lambert & Co., St. Louis. 1884. Price $1.00.

This is a practical volume of small dimensions by a specialist of wide reputation. The lecture form has been retained, which makes the style more readable and attractive. We presume that these lectures were delivered before the advent of muriate of cocaine, but the author finds "listerine" a valuable ingredient of many of his nasal sprays, and in this practice we are enabled by personal experience to agree with him.

COCAINE AND ITS USE IN OPHTHALMIC AND GENERAL SURGERY. By H. KNAPP, M.D. With Supplementary Contributions by Drs. F. H. Bosworth, R. J. Hall, E. L. Keyes, H. Knapp and William M. Polk. New York: G. P. Putnam & Sons. 1885.

This is a thin volume of 87 pages, reprinted from the *Archives of Opththalmology*, with additions, and is a collection of t.e best observations on the therapeutics of hydrochlorate of cocaine to date.

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THE MEDICAL SOCIETY OF NORTH CAROLINA will hold its next annual meeting in Durham on Tuesday, Monday and Thursday, the 19th, 20th and 21st of May. The Board of Medical Examiners will convene at the same place on Monday, the 18th, and remain in session until all candidates are examined.

The North Carolina Board of Health will hold a general session and conjoint session on the 20th May, Wednesday. An election to supply the places of two members of the Board whose service has expired will take place on the 20th May.

For further information address the Secretaries of the different bodies, as follows:

Dr. W. C. Murphy, Secretary Medical Society North Carolina, South Washington.

Dr. W. J. H. Bellamy, Secretary Board of Examiners, Wilmington.

Dr. Thomas F. Wood, Secretary Board of Health, Wilmington.

See also this and subsequent issues of the JOURNAL.

## PROGRESS OF MEDICINE.

**Martin's Method of Treatment of Synovitis, Especially of the Knee-Joint.**—During the past thirty-one years over four hundred cases of synovitis of the knee and its sequelæ, of every form and degree of severity, in every variety of diathesis and complication, however chronic or acute, have been treated by the use of the pure rubber or "Martin" bandage—applied to the limb from the foot to above the knee. The joint is previously strapped from three inches above to a corresponding point below the patella, with non-irritating rubber plaster. This strapping is not applied for the ordinary reasons, but to obviate, or at least mitigate, a troublesome chafing of the skin in the popliteal space, from walking exercise while the bandage is on the limb. One such strapping will remain *in situ* for four or five weeks, and in a very large proportion of cases has not to be repeated. The plaster, however, must be perfectly non-irritating. The bandage should be applied as tightly as the patient can wear it with comfort. There is no danger of the circulation by following this rule, as no dangerous constriction of the limb could be endured without pain and discomfort. The bandage thus applied should be worn in general for from four to six weeks, according to the severity of the case, day and night; and, after that, during the day only, or while in the upright position, for from four to eight weeks longer. Many patients prefer to wear them a good deal longer, to prevent any possible return of trouble, but this is in general not at all necessary.

When the bandages are thus applied, great comfort and support are at once experienced, and with these much increased capacity to use the joint. Very soon it becomes evident that absorption of effused fluid, and of the interstitial deposits in the tissues of the synovial sac, and of the other tissues about the joint, is going on; and, in a space of time too short to be credible to those who have not accurately pursued the practice, and carefully and repeatedly observed the fact, the enlarged and weakened articulation is restored to the normal size, and, if not immediately to its original strength, to a far greater capacity for use, and eventually to a perfect restoration in all respects.

In cases where the amount of fluid effusion within the sac is small, or where the thickening of the sac is the principal element of the case, these results may be always looked for with certainty and rapidity. Sometimes, however, when the amount of fluid effusion is very large, the use of the bandage *alone* (although of the greatest value as a palliative, by strengthening the joint, and permitting painless use of the limb) will produce *complete* absorption of the fluid very slowly, if at all. The existence of these exceptionally obstinate cases induced my father, some twelve years ago, to add to the use of the bandage a preceding thorough aspiration of the sac, all the other points of treatment being exactly as before described. This was done at first only in exceptionally obstinate cases, in which the effusion within the synovial sac was large, but the operation was gradually found to be entirely free from danger, and latterly aspiration has been practised in all cases in which, being chronic, the synovial effusion is of any considerable amount, and even in the most acute cases in which rapid effusion produces great distention and consequent pain. The results of my father's experience are summed up in the following statements :

1. In the last twelve years over two hundred cases of synovitis of the knee, and its sequelæ, have been treated by aspiration with a single strapping of the joint, and subsequent use of the bandage.

2. In these cases the knee-joint has been punctured over four hundred times.

3. In all these cases, with the exception of a very few, and these only in the early stages of treatment, the patient was not only permitted, but obliged to take a daily and considerable amount of walking exercise.

4. In not a single instance has there been failure of absolute and entire cure, requiring, in one case, seventeen weeks, but in no other more than eleven weeks.

5. Although no antiseptic measure, beyond perfect cleanliness of the aspirating needle, was employed, in not one instance has any ill symptom followed the operation. When the needle is withdrawn, the puncture is at once covered severely with adhesive plaster.

Sir Benjamin Brodie long ago declared most emphatically, that when the synovial sac is distended with fluid, it can be punctured, and the effusion drawn off with perfect safety. He does not by any means regard this as a help in treatment, however, as he says the fluid will accumulate again, and in a few hours the joint will be as much distended as before. The originality and value of my father's method of treatment lies in successfully demonstrating the fact that thorough aspiration of the knee-joint, followed by proper use of the rubber bandage, gives us a complete and satisfactory method of cure even in the worst cases of synovitis. By the firm and equable pressure of the rubber bandage, the re-accumulation of fluid is checked. If there is any return of the fluid at all, it is in very much diminished quantity, and a second, or perhaps in severe cases a third, aspiration of the joint is all that is ever required. One great advantage of it is to explode the idea that perfect rest of the joint is the only way to hope for a cure. The patient is emphatically *not* to be confined to bed, or, worse still, to a fixed splint. When the joint is strengthened by a properly applied rubber bandage, exercise is a very great and important adjunct in the treatment. This very day I have visited a lady who passed last summer in Switzerland. While there she was attacked with acute synovitis of the left knee, with a large amount of effusion into the sac. She was kept in bed, with the limb placed on a fixed splint and continually poulticed. After sweltering through the hot weather with the limb swathed in many thicknesses of cotton wadding, at the expiration of two months the splint was removed, and—she has come home with a joint almost immovable! I am sure that had this case been treated by prompt aspiration of the sac, and the proper use of the rubber bandage, a perfect and rapid cure would have resulted without a week's confinement of the patient to her bed.—*Medical Record.*

RAPID FORMATION AND EXPULSION OF GALL STONES.—*Editor Medical World:*—Mrs. F. G., a lady of sedentary habits and addicted to the use of highly seasoned foods, was taken in August, 1883, with an excruciating pain extending from the right nipple to the umbilicus and vomiting. This continued at intervals for ten days, being relieved only by hypodermics of morphia and the hot bath. During this time the vomiting was excessive; the fluid ejected consisted mainly of bile. On the tenth day she vomited seven concretions which were regarded by Dr. George W. Davis, of Kansas City, and myself, as biliary calculi. In a few hours a large mass of feces was expelled, in which there were great numbers of these concretions. These, and those vomited, vary in size from a pea to a walnut. The colic, nausea and vomiting persisted for five weeks to, together with daily rectal evacuations of a large number of calculi—so many, that to count them was impossible. The pain gradually decreased, but the calculi made a regular weekly appearance. Again in April, 1884, she had a severe attack. Lighter attacks have occurred weekly ever since, plenty of the stones being expelled, but with scarcely any pains, owing, doubtless, to the dilatation of the duct.

On November 18, 1884, I was called in the evening and found her suffering from a slight attack. Before morning she vomited over a hundred (actual count). These were pearly white, differing from the previous ones, which were yellow and brown. These varied in size from a split pea to a large walnut, exhibited facets, rectangular in shape, etc. Subsequently, as usual, innumerable quantities passed the bowels. December 19, 1884, a mild attack began at midnight. At 6 a. m. she vomited one hundred and fifty concretions, varying in color from a pure white to a dirty brown. Seventy-five of them are now in my possession. These weigh six drachms.

There are some peculiarities in the case. Premonitory symptoms, such as headache, nausea, constipation, dyspnœa and palpitation occurred for two days previous to the attack. Another peculiarity is the excessive vomiting of about two hundred good-sized, well-formed stones. I can find but little mention of this in the literature I have examined. Frerichs writes: "In *rare* cases calculi passes from the duodenum up into the stomach, and are vomited. The vomited matter contains single or occasionally several, even as many as twenty concretions. This vomiting was preceded by unusually severe colicky pains." In this case the first ones vomited came up after a protracted period of retching. The second and third times they came up easily and promptly after the beginning of mild attacks. Recovery always followed in an hour or two. Morgagui, Fr. Hoffman and Portal have reported cases of this kind.

Another peculiarity is the rapidity of their formation. The vomited matters always contained a thick, tenacious, slimy mucous. As to treatment, she had no prophylactic until within a month. One is at a loss to know what to use, so contradictory are the authorities, and so prolific the number of remedies recommended. Between Durande, with his turpentine and ether; Buckler, with his hydrated succinate of perchloride of iron; Frerichs and other

German writers, with their carlsbad waters; the French, with their vichy; Bartholow, with the phosphate of soda; others, with the artificial carlsbad salt, etc., it is a blind choice for the inexperienced. She is now taking three drachms a day of the soda phosphate. The value of the mineral waters seem to depend upon this alkaline—sulphur properties. This lady has drank for a number of years of the Alburgh "A" Spring, which has a not inconsiderable reputation for these properties, but it seems to be of no value in this trouble.

Fred. L. Ladue, M.D.

Alburgh Springs, Vt.

—*Medical World.*

The Heart in Hysterical Cases.—Sometimes the tumultuous action of the hysterical heart is the most distressing and most upsetting of all the many symptoms of this disorder, so very fertile in symptoms. We all know how unpleasant and appalling even is the sense of sudden and great irregular palpitation, and in the nervous and hysteric this impression loses nothing of its terror. You will meet such women—women whose hearts seem to become wildly irregular on the least provocation, or on none. Digestion in these women causes it, and here I cannot too earnestly insist that digestion, like most other functional acts, may give rise to symptoms which are not of necessity proofs that the function in question is imperfect or diseased. Ordinarily, if we have palpitation of a healthy heart during digestion, that means often enough that our patient is dyspeptic, but not so in nervous or hysterical women. Digestion naturally quickens the pulse, and in these people the normal quickening passes into palpitation. That I am correct as to this is shown in the same women more rarely by the varied disturbances which follow the most perfect performance of other normal functional acts as simple as micturition or defecation. I have seen patients in whom bowel movement always produced irregular heart action, and I have now a lady under my care who has, soon after passing water, slight chilliness, twitching of the face, and extreme palpitation of the heart. Yet, the act of urination is, in this case, painless, and, in fact, absolutely natural. You may regard all of this as of trifling moment, but I have seen cases like these treated with many drugs, and in a case similar to the last one I have known a surgeon resort to dilatation of the urethra. Bear in mind, therefore, that *sometimes in nervous people the activity of a normal function is competent to cause distress in other organs, or to awaken unusual symptoms.* The virulence and singularity of the pulse signs in true hysteria are beyond expression strange.—*Dr. Weir Mitchell on Diseasés of the Nervous System.*

CHLORATE OF POTASH IN THE TREATMENT OF BURNS.—In the *British Medical Journal,* October 11, Dr. J. Walton Browne uses chlorate of potash with success in burns. In superficial burns he punctures the blisters, applies a bread-and-milk poultice over the injured surface every fourth hour until the cuticle has become detached. He then commences the application of a solution of the chlorate 5 grains to the ounce of water. Pieces of lint wet in this solution are applied four times a day. The lint is covered with gutta-percha tissue, and the dressings retained by a bandage. To prevent the lint from sticking some glycerine is added, in the proportion of two ounces to the pint of water. In very deep burns he advises poultices until the slough separates, and uses a solution of the chlorate of the same strength, except that in cases in which the granulations become weak, flabby, or too exuberant, he doubles the strength of the solution.

HYPODERMATIC EMPLOYMENT OF QUINIA AND UREA HYDROCHLORIDE.—Mr. E. V. Zœler, of Tarborough, calls my attention to the omission of the above named chemical from the list of agents to be used hypodermically, in my article on "Hæmorrhagic Malarial Fever," in the December JOURNAL. I have never employed it, but he says that in Bellevue Hospital, in a trial of 100 cases, there was not a single resulting abscess. "The percentage of quinine is 50 per cent. greater than in the sulphate, is soluble in its own weight of water, and hence can be encompassed in the smallest possible bulk or concentratien, important factors, he justly remarks in the hypodermic use of quinine, owing to the quantity of drug required to secure, in many instances, its beneficial results." What would be the equivalent of 15 grains quinine sulphate, can easily be secured in 20 minims; while in the oleate, for instance, about 60 minims would be needed. Quinine and Urea Hydrochloride possesses all the good features of hypodermic quinine preparations, and nothing objectionable. See *New Remedies,* page 334, 1878; page 368, 1881, and succeeding numbers.

# CORRESPONDENCE.

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LEXINGTON, N. C., March 4, 1885.

Dr. THOS. F. WOOD, *Editor North Carolina Medical Journal:*

DEAR SIR:—The letter to which I referred in my "Open Letter" was from Dr. Tiffany, of Baltimore, to one Mr. John A. Myers, of this county.

I never saw the letter but one time, when it was handed to me without solicitation by the man to whom it was addressed, and then, I freely admit, I was not so much impressed by it as to wish to preserve it as a souvenir.

It has been eighteen months or more since I read the letter, and when I wrote my "Open Letter" I quoted entirely from memory, but most assuredly I quoted what I believed to be "the truth, the whole truth, and nothing but the truth," and I think the quotation was correct, "*verbatim et literatim;*" however, of this I am not absolutely confident, but I am certain that the quotation conveys what was to my mind the meaning and intent of said letter.

If I have been guilty of any error it has been an error of the head and not of the heart, for certainly I have no desire to be unjust to any man or untruthful in any particular.

And now Dr. Tiffany very courteously *demands* that I publish his letter to Myers. Upon my honor I wish I could comply with this demand, but I cannot do so because I have not been able to procure it, but in lieu of it allow me to present the following copies of papers in my hands upon the subject. Knowing that I could not procure the letter directly from Myers, I wrote to a friend of mine who was living near him at the time the letter was received to procure it if possible, and if not, to write me his recollection of its contents, and this is a copy of his reply:

"GREENSBORO, N. C., February 16, 1885.

"DEAR SIR:—I have written to Mr. Myers twice, and expect the 'letter' to come in every mail. I don't see why he does not write to me about it. If he does not write by the middle of the week I will write the substance of the 'letter' out in full to the best of my recollection.

"Respectfully, R. H. BIESECKER."

I then wrote to Mr. Biesecker: "I want the letter which all of you saw, written, I think, in June or July, 1883, and if you cannot procure it give me your recollection of its contents." This is the answer:

"GREENSBORO, N. C., February 25, 1885.

"DEAR SIR:—I will give you the contents of Prof. Tiffany's letter that he (Prof. Tiffany) wrote to John A. Myers, according to the best of my memory, or the main idea of it, as follows: 'It is not necessary to have a preparatory course; I advise you to come on; you do not need to hold back for preparation.' It has been so long since I have read the letter that I hardly remember the substance of it, but the above is the principal substance of it, or the leading idea in it. I wrote to Myers to bring the letter to court, I would like to read it. I wrote to-night for the third time. He wrote to me that he would send me Tiffany's letters if he could find them. I remain your friend,

"R. H. BIESECKER."

The next is a certificate from Dr. Smith:

"I hereby certify that about eighteen months ago I saw a letter addressed to a young man of my acquaintance from the Dean of the University of Maryland, Medical Department, in which the Dean advised him that preparatory study under a preceptor was unnecessary, and he could come right along to the lectures.

"B. F. SMITH, M.D.

"Yadkin College, February 16, 1885."

Now, this certificate certainly refers to the letter which Myers received from Dr. Tiffany.

The following is a certificate from my son:

"I certify that about eighteen months ago Mr. John A. Myers came to my office, and, announcing his intention of studying medicine, asked my advice as to the best course to pursue. I strongly insisted that he should study at least twelve months under a preceptor before going to a medical college, whereupon he showed me a letter signed by L. McLane Tiffany, and addressed to himself, in which Dr. Tiffany certainly wrote 'preparatory study is not necessary before coming to the lectures.' This was certainly the sense, if not the language, of the letter.

"R. L. PAYNE, Jr., M.D.

"Lexington, N. C., February 28, 1885."

In using the terms "aided and abetted" in my "Open Letter," I really had no reference to Dr. Tiffany individually (although it may appear so from the connection), but to the professors of those inferior medical schools in general, or any school whatever, who care more for the student's money than they do for his qualifications, and I am sorry that Dr. Tiffany should for a moment suppose I meant any reflections upon himself.

And moreover, allow me to disclaim having had any intention of reflecting upon the character of Dr. Tiffany for honor and integrity, either as a citizen or as a physician, by anything written in said letters, and if he has seen fit to put any such construction upon the language used, permit me to assure him of his error, and to apologize for tee maladroitness of my expressions.

But he will pardon me for saying that I do think his letter to Myers was negligent, and not sufficiently explicit, in that it was calculated to lead him to suppose that preparation was of little consequence in the acquirement of a medical education ; in truth, that the thing was easily accomplished, and I do think that from a source so high as that of the Dean of the University of Maryland, no uncertain sounds should ever come upon the subject of medical education !

Opinions given *ex cathedra* should always be so plain that "the way-faring men, though fools, shall not err therein." When he was informed that preparatory study was not necessary ; he should have been assured at the same time that it was not necessary, provided he attended a sufficient number of courses of lectures, and applied himself with sufficient assiduity. I do think, too, that this omission of duty has reflected injuriously upon the man himself, the community in which he lives, and upon the regular medical profession of North Carolina, for had he been impressed with the importance of *thorough preparation*, as he would have been impressed, had he had a preceptor of the right stamp before attending lectures, he would not now consider himself prepared to practice our "Divine Art," after attending only a part of a course of lectures, and having had no preparation beforehand which amounted to anything at all.

And now, in closing this explanation and apology, let me assure you that when I wrote that "Open Letter" my object was not to contend with Dr. Tiffany, or any other person, place or thing, but to promote, to the best of my poor ability, the *interests of North Carolina*, and if I have offended or wounded anyone, it has been unintentional, and I am truly sorry for it.

I am sorry, alas, for the insinuations contained in Dr. Tiffany's letter ; but I do not believe there is a single gentleman of my acquaintance, either friend or foe, who will think me a liar, and I care but little what the low-down and vicious among my enemies may be induced to believe or say !

I am, as ever, yours truly,

R. L. PAYNE, M.D.

## SPECIAL MEETING OF THE NORTH CAROLINA BOARD OF HEALTH.

The State Board of Health met in the Yarborough House, in Raleigh, on the 20th instant, with the following members present: Prof. W. G. Simmons, of Wake Forest, and Drs. J. W. Jones, Tarborough; R. L. Payne, Lexington; S. S. Satchwell, Rocky Point, and Thomas F. Wood, Wilmington.

The recent act relating to the Board of Health was read, after which an election was held to fill the vacancy caused by the death of Dr. M. Whitehead and Dr. Richard H. Lewis, of Raleigh, was elected. Dr. J. W. Jones, of Tarborough, was unanimously elected President of the Board.

The following Standing Committees were appointed:

Epidemics—Drs. Wood and Jones.

Water Supply and Drainage—Dr. Wood and Mr. Winslow.

Hygienics of Public Schools—Drs. Satchwell and Lyle.

Illuminating Oils—Prof. Simmons.

Climatology—Dr. Jones.

Adulteration of Food and Medicines—Drs. Payne and McDonald.

Vital Statistics—Drs. Lewis and Wood.

Sanitary Inspection—Drs. Jones and Payne.

### COÖPERATION WITH THE NATIONAL BOARD OF HEALTH.

The following resolution, introduced by Dr. Satchwell, was adopted:

*Resolved*, That this Board has learned with pleasure that the National Board of Health has been provided with the proper means to restore it to its former condition of usefulness; and at the same time that we express our gratification, we desire also to assure the National Board of Health of our entire confidence in their organization, and that we are prepared to coöperate with them in all the purposes of our mutual work.

### RESOLUTION IN RELATION TO COUNNY BOARDS.

*Resolved*, That in view of the recent amendments enacted to promote the efficiency of the North Carolina Board of Health, we respectfully appeal to our medical brethren of the counties that have no auxiliary County Boards to proceed to organize at once, and elect their County Superintendents; and we recommend to

County Boards that have held no biennial meeting the present year, to meet as early as practical and elect their respective officers and Superintendents to serve until the next regular biennial election, and report to the Secretary.

Copies of the law as amended will be forwarded to each county as soon as practicable.

At 10 o'clock on Saturday morning the Board, by invitation, had a conference at the Capitol with the Governor, who issued commissions to the following gentlemen:

Prof. W. G. Simmons, Wake Forest; Arthur Winslow, C. E., Raleigh, and Dr. Samuel H. Lyle, Franklin, Macon county.

The management of the exigent fund of $2,000, placed at the disposal of the Governor by the Legislature, was discussed. The Governor assured the Board of his interest in the entire work of the Board, and especially as to the preparation for the invasion of the State by an epidemic. As the law does not make any provision for preventive measures, it was determined by the Governor that he would look to the Board to devise the plan for the isolation and restriction of pestilential diseases. This the Board was willing to undertake, and an understanding was entered into that all preliminary preparations should at once be made. The Secretary of the Board will issue a circular, at an early day, calling upon County Superintendents of Health to send by telegram, or by the quickest method at command, the news of the appearance of the first case of pestilential disease. Cholera is specifically mentioned in the law, but it also includes other pestilential diseases, such as small-pox and yellow fever. It is highly important, therefore, that the Governor, or the Secretary of the Board of Health, should be promptly notified, in order that means shall be at once applied, should assistance be required.

The Board reassembled at the Yarborough House at noon to have a consultation with the new members.

Dr. Richard H. Lewis and Mr. Arthur Winslow were present.

The details of the management of the work for the ensuing year were discussed until the hour of adjournment.

Adjourned to meet on the 20th day of May, 1885, at Durham.

THOMAS F. WOOD, M.D., Secretary.

# AN ACT RELATING TO THE BOARD OF HEALTH.

*The General Assembly of North Carolina do enact:*

(Recently enacted amendments are printed in italics.)

Section 1. That the Medical Society of North Carolina shall choose from the members, by ballot, six members, and the Governor shall appoint three other persons (one of whom shall be a civil engineer), and these shall constitute the "North Carolina Board of Health."

Sec. 2. That the "North Carolina Board of Health" shall take cognizance of the health interests of the citizens of the State; shall make sanitary investigations and inquiries in respect to the people, employing experts when necessary; shall investigate the causes of diseases dangerous to the public health, especially epidemics; the sources of mortality; the effects of locations, employments and conditions upon the public health. They shall gather such information upon all these matters, for distribution among the people, with the especial purpose of informing them about preventable diseases. They shall be the medical advisers of the State, and are herein specially provided for, and shall advise the government in regard to the location, sanitary construction and management of all public institutions, upon application of the proper authorities, and shall direct the attention of the State to such sanitary matters as in their judgment affect the industry, prosperity, health and lives of the citizens of the State. The Secretary of the Board shall make biennially to the General Assembly, through the Governor, a report of their work.

Sec. 3. The members of the Board of Health as elected by the State Medical Society, shall be chosen to serve, two for six years, two for four years and two for two years. Those appointed by the Governor shall serve for two years. In case of death or resignation, the Board shall elect new members to fill the unexpired terms.

Sec. 4. The State Board shall have a President and Secretary, who shall be Treasurer, to be elected from members comprising the Board. The President shall serve two years, and the Secretary and Treasurer six years. The Secretary and Treasurer shall receive such yearly compensation for his services as shall be fixed upon by the Board, but the other members of the Board shall receive no pay, except that, while on actual duty at meetings of the Board, or on duty during the time special investigations are being pursued, each member shall receive four dollars a day and necessary travelling expenses. These sums shall be paid by the Treasurer on duly authenticated requisitions signed and approved by the President of the Board.

Sec. 5. There shall be an auxiliary Board of Health in each county in the State. *These Boards shall be composed of the physicians who shall have complied with the laws of the State in regard to the practice of medicine and surgery, or have a diploma from a regular medical college,* the mayor of county town, chairman of the Board of County Commissioners, and the city surveyor, where there is such an officer, otherwise the county surveyor. From this number one physician shall be chosen by ballot to serve two years, with the title of Superintendent of Health. His duty shall be to gather vital statistics upon a plan designated by the State Board of Health. He shall make the medico-legal post-mortem examinations for coroner's inquests and attend to prisoners in jail, poor house, house of correction, and make examination of lunatics for commitment. He shall be the Sanitary Inspector of the jail and poor house of his county, making monthly reports to the Board of County Commissiners. His reports shall be made regularly, as advised by the State Board through their Secretary, and he shall receive and carry out, as far as practicable, such work as may be directed by the State Board of Health : *Provided that if it is impracticable to get a county Superintendent for any cause, then any one whose duty it is to provide such service, may employ any member of the County Board of Health to do anything required by this section.*

Sec. 6. The salary of the County Superintendent of Health shall be paid out of the county treasury upon requisition and the proper vouchers, as follows : *The salary of Superintendent of Health, or any other member of the Board who is required to do the services assigned him, shall be such sum as the County Commissioners shall deem just and proper for his services as physician to the public charitable and penal institutions of the county.*

Sec. 7. The biennial meeting for the election of officers shall, after the meeting of organization be, for the County Boards, on the first Monday in January, and of the State Board of Health on the second day of the annual meeting of the Medical Society of North Carolina.

Sec. 8. Monthly returns of vital statistics upon a plan to be made by the County Superintendent of Health, and a failure to report by the tenth of the month, for the preceding month, shall subject the delinquent to a fine of one dollar for each day of delinquency, *and this amount shall be deducted from the salary of the Superintendent by the Board of County Commissioners on authenticated statement of such delinquency by the Secretary of the State Board of Health.*

Sec. 9. Inland quarantine shall be under the control of the County Superintendent of Health, who, acting by the advice of the local Board, shall see that disease dangerous to the public health, viz: small-pox, scarlet fever, yellow fever and cholera, shall be properly quarantined or isolated, at the expense of the city, or town or county in which they occur. Any person violating the rules promulgated on this subject shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined or imprisoned, at the discretion of the court. In case the offender be stricken with disease for which he is quarantinable, he will be subject to the penalty on recovery, unless, in the opinion of the Superintendent, it should be omitted. Quarantine of ports shall not be interfered with, but the officers of the local and State Boards shall render all the aid in their power to quarantine officers in the discharge of their duties, upon the request of the latter.

Sec. 10. Whenever and wherever a nuisance upon premises shall exist, which, in the opinion of the County Superintendent of Health, is dangerous to the public health, it shall be his duty to notify, in writing, the parties occupying the premises (or the owner, if the premises are not occupied) of its existence, its character and the means of abating it. Upon this notification the parties shall proceed to abate the nuisance, but failing to do this, shall be adjudged guilty of a misdemeanor, and shall pay a fine of one dollar a day, dating from twenty-four hours after the notification has been served. The amounts collected to be turned over to the County Treasurer, provided, however, that if the party notified shall make oath or affirmation before a magistrate of his or her inability to carry out the directions of the Superintendent, it shall be done at the expense of the town, city or county in which the offender lives. In the latter case the limit of the expense chargeable to the city, town or county, shall not be more than one hundred dollars in any case: *Provided, further, that nothing in this section shall be construed* *to give the Superintendent the power to destroy or injure property, without a due process of law as now exists for the abatement of nuisances.*

Sec. 11. Vaccination: On the appearance of a case of small-pox in any neighborhood, all due diligence shall be used by the Superintendent of Health that warning shall be given, and all persons not able to pay shall be vaccinated free of charge by him, and the County Superintendent shall vaccinate every person admitted into a public institution (jail, poor house, public school) as soon as practicable, unless he is satisfied, upon examination, that the person is already successfully vaccinated. *The money for vaccine to be furnished by the County Commissioners.*

Sec. 12. Bulletins of the outbreak of disease, dangerous to the public health, shall be issued by the State Board, whenever necessary, and such advice freely disseminated to prevent and check the invasion of disease into any part of the State. It shall also be the duty of the Board to enquire into any outbreak of disease, by personal visits or by any method the Board shall direct. The compensation of members on such duty shall be four dollars a day and all necessary travelling expenses.

Sec. 13. Special meetings of the State Board of Health may be called by the President through the Secretary. The regular annual meetings shall be held at the same time and place of the State Medical Society, at which time the Secretary shall submit his annual report.

Sec. 14. Analyses for purposes connected with the hygienic duties of the Superintendent of Health shall be made by the chemist of the Agricultural Station upon requisition signed and approved by the Secretary of the State Board of Health. Such analyses will include soil, drinking water, articles of food, etc., to be packed for transmission by direction of the chemist of the Agricultural Station.

Sec. 15. For carrying out the provisions of this act *two thousand dollars, or so much thereof as may be necessary, are hereby annually appropriated,* to be paid on requisition signed by the Treasurer and President of the State Board of Health, *and the printing and stationery necessary for the Board, to be furnished upon requisition upon the public printer, which shall not exceed two hundred and fifty dollars annually.* A yearly statement shall be made to the State Treasurer of all moneys received and expended in pursuance of this act.

Sec. 16. *A contingent fund of two thousand dollars is hereby appropriated, subject to the Governor's warrant, countersigned and recorded by the Auditor of State, to be expended in pursuance of the provisions of this act, when rendered necessary by a visitation of cholera or any other pestilential disease.*

Sec. 17. All previous acts conflicting with this act are hereby repealed upon the passage of this act.

Sec. 18. This act is in force from and after its ratification.

Ratified the 9th day of March, A. D., 1885.

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STATE OF NORTH CAROLINA,
OFFICE OF SECRETARY OF STATE,
RALEIGH, 20th March, 1885.

I, William L. Saunders, Secretary of State of the State of North Carolina, do hereby certify the foregoing (eight sheets) to be a true copy from the records of this office.

W. L. SAUNDERS, Secretary of State.

W. P. BATCHELOR, Clerk.

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## AN ACT RELATING TO THE PRACTICE OF MEDICINE IN THIS STATE.

*The General Assembly of North Carolina do enact:*

Section 1. That section three thousand one hundred and twenty-two of the Code be amended by striking out the words "*Provided* no person who shall practice in violation of this chapter shall be guilty of a misdemeanor."

Sec. 2. That section three thousand one hundred and thirty-two of the Code be amended by adding at the end of said section the following: And any person who shall begin the practice of medicine or surgery in this State for fee or reward, after the passage of this act, without first having obtained license from said Board of Examiners, shall not only not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof, but shall also be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty-five dollars nor more than one hundred dollars, or imprisoned, at the discretion of the court, for each and every offence: *Provided*, that this act shall not be construed to apply to women who pursue the avocation of a midwife; *And* *provided further*, that this act shall not apply to regularly licensed physicians or surgeons resident in a neighboring State.

Sec. 3. That this act shall be in force from and after its ratification.

In the General Assembly read three times, and ratified this, the 23d day of February, A. D., 1885.

### AN ACT TO AMEND SECTION 3,132 OF THE CODE.

*The General Assembly of North Carolina do enact:*

Section 1. That section three thousand one hundred and thirty-two of the Code be amended by adding after the last word of said section the words, "*Provided* that this section shall not apply to physicians who have a diploma from a regular medical college prior to January the 1st, 1880."

Sec. 2. That this act shall be in force from and after its ratification.

Ratified the 7th day of March, A. D., 1885.

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STATE OF NORTH CAROLINA,
OFFICE OF SECRETARY OF STATE,
RALEIGH, 19th March, 1885.

I, William L. Saunders, Secretary of State of the State of North Carolina, do hereby certify the foregoing (one sheet) to be a true copy from the records of this office.

W. L. SAUNDERS, Secretary of State.

W. P. BATCHELOR, Clerk.

## TESTIMONIAL OF THE COUNTY MEDICAL ASSOCIATION.

At a called meeting of the Cumberland County Medical Association, held on the 28th of February, 1885, a committee was appointed to prepare appropriate resolutions expressive of the deep grief which has overwhelmed our Association in the loss it has sustained by the death of our late venerable companion, Dr. B. W. Robinson.

The following was submitted and unanimously adopted:

The occasion which has assembled us to-day is one of the most melancholy in the annals of our Association, and while we see in it the hand of Him who "doeth all things well," we are also conscious that as time rolls on its troubled stream into the peaceful waters of eternity, it occasionally happens to bear as its burden some being more valued, more useful and more beloved than those whom every-day life presents to our view, whose loss leaves a void in the community which cannot be easily filled up—casts a gloom over those prospects which were brightened by his labors, takes from a fond and devoted people the object of their admiration, their respect and their love, and leaves behind but the memory of his virtues and his usefulness.

Too well and truly have we experienced this in the demise of Dr. Robinson—an event not entirely unlooked for, yet sudden. Death indeed came "as a thief in the night," and left for us all the echo of admonition—watch!—an event bringing sorrow and sadness to all who knew him in private as well as professional life, and making desolate the hearts of so many devoted friends—in him had centered their confidence for a life-time, and on whom so many had depended for relief and comfort.

No eulogy to which we could give utterance could add to the elevation of this truly good man and eminent physician, nor could the expression of our deepest sympathy do more than commingle in that one universal sorrow so deeply felt for such a bereavement, for his eulogy is in the deep grief of his friends. His epitaph is written on the enduring affection of his patients, their prayers are the incense around his tomb, their hearts the libation over his ashes.

To the grief-stricken family we extend our sincere sympathy in their bereavement, and assure themt hat it is with no ordinary feelings of sorrow that this Association thus publicly recognizes the loss from among its members of our venerable and genial companion; and that our Association has been deprived of one of its brightest ornaments.

The Secretary will place upon the minutes of the Association the above tribute to our deceased brother and co-laborer, and send a copy to the family of the deceased, to the NORTH CAROLINA MEDICAL JOURNAL, and to the town papers, with a request for its publication.—*Eayetteville Observer*, 5*th March*.

NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 4. Wilmington, April, 1885. Vol. 15.

# ORIGINAL COMMUNICATIONS.

## MICROPHYTIC BIOLOGY.

By Prof. Germain Sée, Paris, France.

(Continued from the March number.)

6. *Functions of the Microphytes.*—The microphytes exercise the most diverse functions. Some determine the various acts of digestion, fermentations and putrefaction; these are the common, well known microphytes (infusoria of Ehrenberg), recognized as plants half a century ago by Cagnaird de Latour, and by Thenard, proved to be the agents of fermentation by Schwann, Schultze, Chevreul, Pasteur and Van Tieghem, who has even had the singular good fortune to find bacilli in the roots of coniferæ of the tertiary period. The other microphytes which interest medicine quite differently, are those which give rise to the greater part of infectious diseases; the microphyte of charbon is the type. In 1852 Davaine discovered in the blood of animals suffering from splenic fever minute organisms having the form of roots, which he considered as the specific microbes of charbon, and he furnished experimental proofs for this

belief; these were largely confirmed twelve years later by the memorable processes of microphyte culture devised by Pasteur. Since the year 1866 the microbes have been the subject of innumerable works, each writer desiring to have his own microbe and make good his claim, but the true glory is for him who has succeeded in bringing the morbific microbe within the domain of practical medicine. Lister caught the spirit of Pasteur, invested methods of antiseptic dressing, saved the lives of subjects of surgical operations and of the wounded, put surgery under everlasting obligations to him. It is now for medicine to pursue the same productive path.

## IV.—BIOLOGY OF THE PATHOGENIC OR SPECIFIC MICROBES.

### § 9.—*Definite Morbigenous Properties.*

You will find divers parasites in the organisms of man and of animals, even in the normal state. The mouth and the digestive tube always contain them. The blood and the urine do not contain them, except in certain morbid conditions, principally in the infectious diseases.

These infectious or specific diseases, absolutely distinct from vegetal or animal intoxications, which, whether in the acute or chronic state, are always proportional to the dose of the poison present, on the contrary, immutable types, which differ among themselves as differ the microphyte species from which they are derived. The microbes have properties which are constant and unvarying; they are not susceptible of transformation, the one into the other, in such a way as to produce a new pathogenic species. It has been said that the pathogenetic tribes may lose their deleterious character and be metamorphosed into common (benign) fermentiferous parasites; these, however, do not occupy the bodies of man or animals but in certain exceptional circumstances, nor yet do they produce in these cases any parasitic infectious disease.

### § 10.—*Conditions of Existence of the Morbiferous Microphytes.*

1. *Difficulties of Existence.*—In general the conditions of existence of the specific microphytes are not favorable for their life and multiplication. Therefore they are relatively rare, if we compare them with parasites in general, so extraordinarily diffused throughout nature. If, in fact, the pathogenic fungi had multiplied like

the fermentiferous parasites, the world of the higher life would long ago have disappeared by reason of infectious diseases; the universe would have been for the microbes, which would have devoured even the last vestiges of organized bodies, and this food supply being once used up, the earth would have been despoiled of animals and of plants—it would have been bare as a rock. Happily the pathogenic species are especially destined to encounter difficulties of existence, and do not show themselves, do not manifest their properties except in certain determinate media suitable for producing the microbic diseases.

2. *Influence of Oxygen, Ærophobia.*—All the morbid microbes may live, and do live, without air. They multiply when you suppress or restrain the access of oxygen. Conversely their duration is short in free air; they even lose, under the influence of the atmosphere, their morbigenous character; they are, so to speak, ærophobist.

In conditions analogous to ærobia the vulgar (benign) parasites, may, it has been said, become morbigenous; when they have vegetated a certain time, away from the air, they become adapted to this mode of life, and they may take on pathogenetic characteristics. This, however, is questionable.

3. *Influence of Heat.*—A certain temperature is necessary to the specific microbes for their multiplication. Below and above a determined limit they lose their power of reproduction. Either then they die, or, as has been affirmed, they develop into spores, in which case a special and exact adjustment of air is necessary to permit these spores to undergo development.

4. *Influence of Movement.*—Movements, shocks, violently impressed on culture liquids, arrest the vitality of the microphytes. A certain degree of rest is necessary for the exercise of their functions.

## § 11.—*Multiplication of the Microphytes, in Earth, in Water, in Habitations.*

It is easy to understand the conditions of germination of the microphytes. Cadavers in putrefaction, in the soil or on its surface, favor the development of the ordinary microphytes under such circumstances. The specific parasites do not undergo development, unless the inanimate bodies contain microbes of the same species; in this case the multiplication of the morbigenous microphytes may go on to such extent that the fermentiferous microphytes are quite deprived of their means of sustenance.

The soil itself does not favor the formation of morbigenous microbes unless the cadaveric débris be of gelatinous nature.

Potable and other waters may be altered by drainage from lands impregnated with such putrefying animal detritus, or with the organic remains of some dried-up subterranean stream [sewers and cess-pools in the vicinity of wells undoubtedly have their part in the dissemination through drinking-water of morbific microbes.] It is moreover known, since the meritorious researches of Schlosing, that subsoil oxidations take place with the aid of living ferments; that, for instance, the ammonia which results from decompositions transforms itself under this influence into nitrous acid; that the nitrification of the soil is, so to speak, under *animated* management, and that, lastly, a soil impregnated with moisture and little ærated, is not susceptible of nitrification.* Even habitations constitute foci for the spread of microbes; they are, according to Emmerich, true laboratories of microbes of all kinds. These find always in the subsoil débris sufficient nutriment; besides in the bed-chambers particles of organic dust which have penetrated with the air by the various openings, attach themselves to the carpets, the sized curtains and other drapery.

### § 12.—*Morphology of the Specific Microbes.*

The specific microphytes differ essentially from the fermentiferous species by their pathogenic properties; Pasteur's culture methods leave no doubt in this regard. It is not the same with the morphological forms which the various species take on. The morbiferous agents, as well as the vulgar kinds, assume the form of micrococci, bacteria, bacilli, spirilla; if the bacteria and bacilli predominate in pathogeny it is none the less true that they are not always of medical order (pathological); micrococci are oftener benign than malignant. Is it not, however, possible that in the infectious diseases decisive and distinct characteristics may be found pertaining to their respective microbes which shall enable us by microscopic inspection to recognize the two classes of microphytes? To this question of specificity of forms we may in most cases give an affirmative answer. By the aid of processes of staining invented by Weigert and perfected by Klebs, Koch, etc., we may assign to the morbific bacteria, and especially to the bacilli, certain attributes *sui generis* which enable us anywhere to detect them. The confirmation of the micrococci, their groupings, their envelop, even, often allow us to recognize their precise nature; moreover, the micrococci stain readily, by a solution of hæmotoxylon, while the bacteria are with difficulty impregnated with this coloring matter. Some bacilli retain with tenacity divers tints of aniline, while other bacilli easily abandon these colors, and so are decolorized by acids, or, after subjection to a second staining liquid, quit the first tint to take on the second. These peculiarities can only be due to the permeability of the envelop to certain artificial dyes.

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* Boussingault.

This characteristic constitutes the best reply to the objections which have been raised against the doctrine of virulent germs which, according to some mycologists, are nothing but vulgar bacteria, developed in a diseased organism.

*Spores.*—The morbific spores do not differ from common spores by their morphology or by any known phenomenal signs, and as for their specific properties, they are difficult of demonstration.

### V.—THE MICROPHYTIC DISEASES.

1. *Comparative Medicine.*—It was comparative medicine that first profited by the discoveries of Pasteur. The diseases of animals have been illuminated by the light of a new day since the labors of Davaine, Pasteur, Bonley, Toussaint, Jollyet, Detmers and Thuillier, who have recognized and shown the parasitic nature of anthrax, fowl-cholera, pebrine, swine plague and sheep pox. These useful scientific acquisitions have not failed to arouse the zeal of practical physiologists to such an extent that in ten years human pathology and medicine have undergone a revolution by reason of the research and experimental study in this one department of infectious diseases.

2. *Surgical and Puerperal Diseases.*—Among the diseases which have been the subject of investigation there are certain whose microphytic character is found demonstrated in the most peremptory

manner by the results of treatment. Such are surgical septicæmias which get well under, or are prevented by, antiseptics while we are searching for the specific microbes. Such is puerperal fever, which, according to Doleris, is due etiologically to many microbes, and is efficaciously treated by anti-parasitic remedies, phenic acid or corrosive sublimate; the parasitic theory is still a matter of dispute, but the triumph of the antiseptic medication is a fact, as is shown by the magnificent results which Tarnier has obtained in the MATERNITY which was formerly the opprobrium of the obstetrical art, so insalubrious were the conditions to which lying-in women were exposed, and so great was the mortality.

3. *Medical Diseases.*—Clinical medicine has not been able, thus far, to pride itself in its anti-parasitic therapeutics. The discovery of the precise parasites of medical diseases is quite too recent an event to have furnished matter for regular experimentation. It is then obligatory on us to keep distinctly in mind the parasitic nature of these maladies, and the conditions of their development and propagation. To attain this end a simple enumeration of parasitic diseases is not enough, and simply pointing out the particular microbe of each is not enough; in the interest of practical medicine we should take account of *all their specific characteristics.*

### § 13.—*Classification of Parasitic Diseases.*

By this I mean taking into consideration the origin of the disease, its mode of development, its power of transmission; by the aid of principles thus acquired we shall once more succeed in harmonizing the new data of science with the medical traditions of the past. I am of opinion, then, that we ought to distinguish five classes of parasitic diseases.

*Class* 1—*Miasmatic Diseases, Malaria.*—We have to do, first of all, with diseases which are simply of miasmatic origin and not transmissible from man to man; malaria and the paludal fevers alone constitute this first group, which is perfectly distinct from all the other specific diseases. They develop under the influence of miasms emanating from a marshy soil or ground rich in organic matters like the Campagna Romana. In these countries the air and the earth contain bacilli which in culture liquids take the form of elongated curved filaments, which undergo segmentation. Klebs and Tomassi Crudelli affirm that these microphytes may be inoculated in pores and produced symptoms resembling malarial disease. This is very doubtful. Certain it is that malaria is neither transmissible nor contagious nor inoculable ; it is miasmatic

*Class 2—Microphytic Diseases that are Inoculable and at the same time Transmissible by the Atmosphere.*—1. *Tuberculosis.*—Among the inoculable parasitic diseases it seems strange to mention first in the category tuberculosis, of which the virulence and contagiousness have been so lately contested. In the present state of science we know that it is due to a special microphyte, a bacillus easily distinguishable from other benign parasites, not only by its power of indefinite multiplication and by its inoculability, but also by its technical characteristics ; the vital properties, as well as the morphology of the tubercle bacillus, discovered by Koch, do not admit of or justify any confusion. It is found in all the tissues, but more particularly in the products of expectoration, and perhaps also in the air that surrounds the sputa.

2. *Variola.*—Variola, which is equally transmissible by the air and by inoculation, has, according to Klebs, quadrigeminal micrococci, which accumulate especially in the small areolar cavities of the rete Malpighi, giving rise to the characteristic pustules. The active particles of vaccine are solid capsules, well indicated by Chauveau, and which are known to-day to be constituted by microbes.

3. *Diphtheria.*—Diphtheria, a disease of such fatal virulence, presents, according to Talamon, a special mycelium under the form of tubes with irregular contours, as if broken here and there, and not accurately joined again ; also conidia spores, which he has succeeded in cultivating and with which he has successfully inoculated pigeons and young cats.

4. *Recurrent Fever.*—This disease, which is unknown in France, is due to a spirilla which is perfectly well defined, and which is found in the blood only at the time of the attack ; the inoculability according to Obermeyer, is doubtful.

5. *Erysipelas.*—Erysipelas, in its infectious forms, comprehends etiologically certain micrococci, joined or in pairs whose special location is the trunks of lymphatic vessels and the lymph spaces of the derm. These do not exist in the blood, and their reproduction by inoculation has not been proved by Felheisen.

6. *Infectious Pneumonia.*—The infectious character of pneumo-

nia, or the greater part of pneumonias, is no longer a matter of doubt. (See our researches, as published in the *Union Medicale* for 1883.) The infectious nature of this disease is due to certain micrococci, furnished with capsules, according to Friedlarler; to certain ellipsoidal micrococci, according to Talmán, which of themselves may determine fibrinous pneumonia.

7. *Typhoid Fever.*—Rarely transmitted by contagion from one individual to another, typhoid fever is communicated twice out of every three times by the intermediation of fæcal matters, especially when these contain the evacuations of typhoid patients.* Drinking water and milk serve also as vehicles to the typhoid virus; this consists, according to Eberth, of certain bacilli, found by him eighteen times out of forty in the glands of the abdomen, and besides in the larynx and lungs where the virus seems to take the bacteria form, discovered also in the urine by Bouchard and in the typhoid roseola by Hanot.

*Class* 3.—*Microphytic Diseases Communicated only by Inoculation.*—8. *Canine Rabies.*—Rabies is to-day the subject of study; Pasteur has already obtained results of considerable value.

9. *Syphilis.*—Syphilis, so easily inoculable in man, is due, according to Aufrecht, to certain *diplococci*, which are readily and brilliantly stained by fuchsine. Klebs has cultivated them, but no one has succeeded in reproducing the disease in animals.

10. *Gonorrhœa.*—Neisser has described a special micrococcus which is found in the pus of urethral discharges, and of blenorrhagic ophthalmia; the culture product, according to Bokai, has been inoculated with success.

11. *Glanders.*—This is a virulent disease of the gravest kind. The virus is due to a bacillus resembling that of tuberculosis, but distinguishable from the latter by the results of the staining process.

*Class* 4.—*Bacterial Diseases not Inoculable.*—12. *Lepra.*—This disease is due to a bacillus similar to the tubercle bacillus, but not inoculable.

13. *Ulcerous Endocarditis.*—Here the bacteria form veritable colonies in the blood, in the heart, in the urine; no attempts have yet been made to cultivate them.

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*Jacconal.

14. *Rheumatism.*—Klebs affirms the parasitic nature of rheumatism.

*Class 5.—Contageous Diseases whose Parasite is Doubtful or Ill-defined.*—15. *Measles and Scarlet Fever.*—The microbes which are supposed to give origin to these diseases, are not yet known.

16. *Whooping Cough.*—Pertussis, which, by its contagiousness and its location in the lungs, has such affinity with measles, is characterized by mycelia and spores, which, according to Tochaur, present a special type. No attempt has yet been made to inoculate this fungus.

17. *Dysentery.*—The micrococci and bacteria which Radjewski has found in the fæcal matters of dysenteric patients have nothing about them which is special; the same microbes are found in the normal state.

18. *Cholera.*—The researches in Egypt of the two French and German commissions have not yet resulted in the exact knowledge of the parasites of cholera whose contagiousness is beyond all reasonable doubt; Koch, however, indicates as peculiar to cholera and as causal, certain comma bacteria which he has not been able as yet to cultivate.

## HOSPITAL NOTES.

### Wilmington City Hospital, W. W. Lane, M.D., Surgeon in Charge.

### Case I.—Ovariotomy.

Mrs. F. B.; married; 27 years of age; native of Fayetteville, North Carolina; mother of three children, youngest 2 years old. Admitted November 1, 1884, in a wretchedly weak and feeble condition from malarial fever, with engorgement of liver and spleen in addition to abdominal tumor.

As soon as her general health was sufficiently improved by appropriate treatment, she was placed upon the table and subjected to a very careful examination by Dr. Love and myself. We were agreed in the opinion that we had here an ovarian cyst of the multiple character, with abdominal ascites. The sound indicating, as far as we could judge, no uterine connections.

A week or ten days after this, on January 10, she was again critically examined with the aid of Drs. Wood and Love, at which time an aspirating needle was passed into the tumor and a small quantity of honey-like, straw-colored fluid, with difficulty obtained on account of its viscidity.

Our first diagnosis seemed now to be confirmed, and was further established by a microscopical inspection of the fluid kindly made for me by my friend Dr. G. G. Thomas, of this city.

On the 17th of January the operation was performed in strict accordance with the antiseptic methods as advised by the best authorities, in the presence and with the aid and assistance of quite a number of the medical gentlemen of this city.

The tumor was found to be a large multilocular cyst, about the size of one's head, the right side filled with a tenacious straw-colored fluid, the abdominal cavity being also filled with a large quantity of ropy, greenish material, with a large number of yellowish-white fatty masses of the size of a bean floating therein.

Its anterior surface was covered by a vascular apron formed by the expansion of the right broad ligament, the adhesions of which I could easily detach with my fingers.

The tissues of the omentum, mesentery and intestines looked unusually dark and congested; there was some hemorrhage from the vessels of the former and quite a mass of it was tied.

The pedicle was short and broad, it was transfixed and ligated with a double silk ligature and returned to the pelvic cavity. The peritoneum was carefully and thoroughly washed out with carbolized water, containing salt.

The abdominal wound was five inches in length; it was closed with silver wire and a glass drainage tube inserted in the lower angle; this was sustained by wide adhesive straps extending well around the sides of the body, and the whole covered with corded bats of oakum and cotton batting, supported by a flannel band. The patient came out well from the chloroform narcosis, and suffered very little from nausea. The weather being very cold, below the freezing point for several days, the room was kept well ventilated by a good wood fire.

On the second day the temperature reached 103°, pulse, 130, respiration 20, but fell next day to 19.

On the sixth day there was considerable tympanitis, with elevation of temperature and pulse rate. The peritoneal cavity was well irrigated by syphon through drainage tube, with salted carbolized water. Symptoms relieved.

Seventh day, bowels relieved by enema, at her urgent request.

Tenth day, very much improved—wants to get up, stitches and straps removed, the latter renewed, and wound healing nicely.

Doing well until the sixteenth day, when she has an attack of malarial fever, with bilious vomiting and temperature of 103½; condition quite alarming for some hours, but symptoms yielded to full doses of quinine. From this period she entered upon her convalescence, and is now restored to her usual health. The menstrual flow, which has been suspended since the birth of her last child, has returned.

The thickened character of the serous fluid in the peritoneal cavity in this case appeared to be unusual, as effusions from this membrane generally do not possess this consistency.

The patient, during her preparatory treatment, and also before her admission, as she informs me, has suffered at times with severe abdominal pains, which, taken in connection with the congested appearance of the internal parts before alluded to, we may perhaps reasonably infer that this syrupy character was induced by chronic peritonitis.

An old vaginal prolapse of long standing was also cured in this patient, aided, no doubt, by her forced lengthy recumbency, as well as by the benefit derived from the operation.

## CASE II.—SKIN GRAFTING.

C. B., colored, aged 17 years, admitted on account of extensive ulcer occupying the whole anterior tibial surface from near its middle almost to the bend of the ankle. There was an exostosis of the bone underlying the sore, causing quite a remarkable enlargement and elevation of the parts.

On the calf there was another ulcer the size of a dollar, while on either side the leg was studded with small unhealthy circular sores in various stages of development and cicatrization. The tibia, although so much hypertrophied, appeared to be sound and healthy.

The girl states that she received a scratch from a briar on the skin, in the country, when about fourteen years old. There seemed to be no syphilitic taint, either hereditary or acquired, as far as I could learn, but rather a scrofulous diathesis. Under a variety of treatment and numberless applications, she continued to grow worse, and finally applied for relief at the Hospital.

During the progress of the treatment pursued here of suspension in the wire gauze splint, absolute rest, with gentle pressure with oakum pads and the roller bandage, the ulcer having been brought into a healthy granulating state by iodoform and the blood renovated by internal use of syrup of iodide of iron, this wide gap nature was endeavoring slowly to bridge over with a new dermal layer; but before the neoplastic matter could be completely organized into a new epidermic film around the edges, it would undermine, break down and cause great delay and disappointment in the healing process, as if the powers of nature were striving to their utmost to repair the mischief, but were unequal to the task of covering this large, bony tumor, with new integument.

It was under these circumstances that in this case I resorted to the transplanting of skin grafts, and was enabled thereby to make a final and successful cure, the grafts soon taking on all the characteristics of sound, true skin, retaining their natural pigmentation in their progressive growth, until the whole diseased surface was entirely and completely covered.

When the surface to be covered is large, as it was in this case, a constant succession of fresh grafts are required, as the new cicatrization does not extend beyond one-third to half an inch around the graft as a centre. The contact of the epidermic cells with the granulations at the edge of the ulcer repress the latter and greatly influence the cicatrizing process.

I have many times tried scraping off epidermic scales from clean, sound skin, and scattering them freely on healthy granulating sores, but have never succeeded in a single instance in getting them to take hold.

One of the great advantages to be derived from skin grafting outside of the mere facility afforded in the more rapid healing of the ulceration is the security it affords from the danger of relapse from subsequent accidents, the grafts furnishing a covering equal to the at ural integument, whereas the granular cicatrization is at best only a substitute, liable to give way from slight causes and returning to its former state.

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## CASE III.

M. C., white, aged 27, admitted December 19, with large ulcer over the left tibia, a little below its middle, with a dark, leathery slough lying on its bottom. This was dead periosteum, clinging to necrosed bone beneath.

The neighboring portion of the tibia was considerably enlarged and the limb swollen. Just below the knee, over the tubercle, was a very large periosteal swelling, apparently pursuing the same destructive course.

She had a syphilitic history, having had a chancre a few years ago, with secondary manifestations, for which she had received treatment.

Her health being much broken, and blood in an impoverished state, she was put upon the iodide of potassium, with iron and bark. Under this course she improved rapidly, with a subsidence of the periosteal tumor.

The dead bone showed no disposition to loosen and come away; on the contrary, it was firmly attached to the healthy part underneath, and throwing off that profuse and offensive characteristic so peculiar to necrosed bone. The integument below the ulcer was inflamed and painful, extending along the tibia towards the external malleolus.

As there was no evidence of any detachment of the sequestrum of itself, I thought it best to remove it, and for this purpose the patient was anæsthetized and the limb exsanguinated by means of Esmarck's apparatus. The integument was lifted up from the anterior surface of the tibia and the granulations trimmed away, when it was seen that the blackened and dead portion extended no further than the edges of the ulcer.

No line of demarcation was found between the dead and living parts, and the only way of distinguishing the two was that the latter bled under the chiselling and the former did not.

The chisel and mallet was freely but carefully used until a free oozing showed the entire removal of the necrosed part. There was no more indication of a separation between the living and dead bone in the deeper portion than there was at the surface.

Granulation of the bone and soft parts are progressing well, with no further necrosis.

The wound was dusted with iodoform, dressed with lint, smeared with vaseline, over which was placed an oakum pad, drawn gently together with adhesive straps, a roller bandage applied from instep to knee, and the limb suspended in a wire gauze splint.

The patient is still under treatment, but rapidly getting well, with general health vastly improved.

It is difficult to explain why this failure to effect separation of the dead from living bone in such cases should occur, but I have noticed this indisposition quite often in persons suffering from syphilitic cachexia, generally of the long bones. Whether this condition is peculiar to syphilis or not I do not know.

## Case IV.

Mary L., white, aged 24 years, domestic at the Catholic Convent, was an inmate of the hospital the past summer, suffering from chronic cervical endometritis and secondary syphilis, of which she was apparently cured, certainly of the former, and discharged in October. She was told to keep up her medicine after her return home, or her disease would likely break out again ; this she neglected to do. On the 19th of December she was readmitted with a foul syphilitic ulcer on lower part of tibia, with severe osteo-periostitis, and a fluctuating painful swelling a little higher up on the leg. Her suffering was so acute that it was found necessary to give her quinine and morphia for the first two or three nights. The open sore was sprinkled with iodoform, the inside of the leg having rubbed into it every night a portion of mercurial ointment the size of the end of a finger, and full doses of the iodide of potash, given three times a day. Under this combined treatment of the iodide and mercury the osteocopic pains subsided in a wonderfully short time, the periosteal swelling diminished and the eruption on the skin began to disappear.

Mercury, I think, in these cases of transition from the secondary to the tertiary stages of syphilis, is not only our best method of curing this disease, but also the surest guarantee against a relapse.

Either externally or internally used in small doses, it acts as a tonic by increasing the red corpuscles of the blood.

Daily experience demonstrates clearly that the iodides may cause the disappearance of tertiary symptoms, but they do not alone cure syphilis. To combat these forms of the disease successfully we must give a combination of the two remedies.

I think it is much the best practice to avoid using the bistoury in these soft periosteal nodes, for with the above recommended course of treatment, with absolute rest in bed, they are soon reduced without the danger of causing an open sore.

This case came under observation probably just in time to prevent the accidents that occurred in case number three, i. e., sloughing of the periosteum and necrosis of the bone.

The patient was discharged cured February 11, and at present is in good health.

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# SELECTED PAPERS.

## NARRATIVE OF AN INSTANCE OF CURE OF LUPUS ERYTHEMATOSUS.

By Jonathan Hutchinson, F.R.S., Emeritus Professor of Surgery to the London Hospital.

All who know the disease will, I am sure, admit that cases of recovery from lupus erythematosus are, unfortunately, rare. As an instance of completed cure, the case which I am about to relate becomes, I think, of much interest.

I first saw Mr. J. P. B. on March 4th, 1881. He came to me on account of patches of erythema-lupus on each side of his nose, about its middle. There was a third on its ridge, near the tip, but the three did not coalesce, and thus the bat's-wing was not complete. Their arrangement was, however, quite symmetrical. Mr. B. was a tall man, rather spare, but in fairly good health. His age was 45

He had never suffered from actual chilblains, but had a feeble circulation and dusky ears. A maternal aunt had died of phthisis. He had himself once consulted the late Dr. Baly, in the belief that his chest was delicate, but had been told that he ailed nothing but "dyspepsia and weak heart." His skin had always been very irritable, and he was liable to little spots on the hands, etc., which itched intolerably, and which he used to scratch until they became sore. Such was his state when the erythema-patches showed themselves on his nose. I may add that he was living the life of a country gentleman in a cold district. The patches had been present about a year when he came to me. I prescribed for him arsenic internally, and a weak lotion of tar and lead to bathe the patches.

Between 1881 and April, 1883, I saw nothing of Mr. B. At the latter date his surgeon, Mr. Williams, of Norwich, wrote me that he was worse. It was now decided to insist on the use of arsenic.

In February, 1885, Mr. B. called to show himself, and to tell me that his lupus was quite well. It was absolutely so. White, thin, inconspicuous scars took the place of the former patches, and there was neither thickening nor erythema at their edges. The scars on the sides of the nose were each as large as a shilling, that on its middle not so big. On the scalp, which was nearly bald, there were several other scars as big as the end of one's thumb, which were the remains of other patches which had developed since his visit to me. As regards his cure, Mr. B. said that it was unquestionably due to arsenic. He said that, in consequence of my having remarked that I trusted most to external treatment, he did not, on the first occasion, continue the arsenic, having a prejudice against it, but used the tar and lead wash assiduously. The patches increased, and new ones on his scalp formed. Two years later, in 1883, Mr. Williams insisted on his taking the arsenic, and increased the dose. It was continued for fifteen months regularly, caused a sharp attack of shingles, and made the eyes red and irritable, but, in the end, quite cured the lupus. I inquired carefully as to whether any local remedy had been employed simultaneously, which might have been the real agent in the cure, but it did not appear that such was the case. As regards the patches made on the scalp, it is true that Mr. B. thought that a hair-wash, "which made the scalp smart," had done them good; so much had he been impressed with this belief, that he applied the wash to his nose also, but this had been done only on a few occasions, and had not, he thought, helped the cure It must also be remembered that he was taking arsenic all the time that the wash was being credited with the cure of the scalp-patches.

*Comments.*—I have prescribed arsenic far many other cases of lupus erythematosus, but, having never realized any definite result, I have not urged it with much faith. It may easily be the fact that it has seldom been sufficiently pushed. It will be seen that, in this case, we have proof, in the occurrence of arsenical shingles and of red eyes, of the full physiological influence of the drug. I have, in a certain minority of cases, cured, or partially cured, the disease by the use of external applications, but have never thought that internal medication had any definite effect. This case would certainly suggest a more free use of our great remedy. I fear, however, that we shall find that it is by no means generally successful, and that Mr. B.'s case is, after all, a fortunate exception to the rule. I have certainly seen many cases in which other surgeons had, before the patient came to me, pushed arsenic very freely, and sometimes apparently rather with injury than with benefit. The clinical fact that lupus erythematosus differs from all other forms of lupus in its tendency to develop symmetrically in isolated and independent patches, seems to show an alliance with psoriasis. At any rate, it indicates a constitutional, rather than a local origin, and, as such, implies the probable need of internal remedies.—*British Medical Journal.*

## THE TREATMENT OF RINGWORM OF THE SCALP.

The following is a simple and very effectual method of treating ringworm of the scalp:

The child affected is made to sit down on a chair before a washing-basin half filled with warm water; a folded towel is first of all tied round the child's forehead, in such a way that no fluid poured on the head can trickle down into the eyes.

It is best to cut the hair short all round the affected part. If there be many spots of ringworm, the whole head may be closely cropped. Have ready a two-ounce bottle of common spirit of turpentine, an ounce bottle of tincture of iodine, a camel-hair brush, and a 10 per cent. cake of carbolic acid soap.

While the child bends forward over the basin, the spirit of turpentine is freely poured over one or more spots at a time, the forefinger being used to rub the turpentine well into the scalp. Almost immediately the dirt and greasy scabs disappear, and the short broken hairs are seen to stand up like bristles. Generally, in about three minutes' time, the child cries out, "Oh, it nips!" then we know that the turpentine has penetrated deeply. Immediately the piece of carbolic acid soap is well rubbed into the parts which have been acted on by the temperature, and warm water is freely applied to make this soap into a lather, by which means the head is well washed, and soon appears to be beautifully cleaned. The smarting, such as it is, quickly disappears after the application of the soap. The head is then well dried with a towel. Common tincture of iodine, in two or three coats, is now painted well over the affected parts, and allowed to dry. As soon as the hair is dry, some carbolic oil (1 in 20) is rubbed all through the hair to catch such spores as may be there.

This treatment, applied every morning, or morning and night in very bad cases, generally cures the worst cases in the course of a week. During the last five years I have used no other mode of treatment. The explanation of its success is as follows: Common spirit of turpentine is a powerful germicide; but it is a still more powerful solvent of the sebaceous or greasy matter of the scalp, and it rapidly penetrates into all the epithelial structures of the scalp, the affected hairs included, and clears the way for the application of a still more powerful germicide, namely, tincture of iodine.

It is an interesting chemical fact that spirit of turpentine, or, more correctly, oil of turpentine, is a powerful solvent of iodine. This solution of iodine in turpentine is a most powerful germicide, and quickly destroys the fungus of ringworm. If tincture of iodine be applied to the spots which have been treated, as above, first with the spirit of turpentine, and then washed with carbolic acid soap and water, it finds its way down into the epithelial tissues, and into the hair-follicles, following the course which the spirit of turpentine has taken. It is of no use to apply watery solutions of germicides, until the greasy or sebaceous matter of the scalp has been first removed.

In some severe cases I have applied a solution of iodine in turpentine, ten grains to the ounce, instead of the tincture of iodine, after the head has been washed and cleaned; but in most cases the application of tincture of iodine, after the part has been acted on by the spirit of turpentine as above described, is quite sufficient to destroy the disease.

Ringworm on other parts of the body may be treated with spirit of turpentine and tincture of iodine in exactly the same way. One great advantage of this treatment is that it may be applied to the head of the youngest child, and causes little or no distress at any time.

JAMES FOULIS, M.D., Edinburgh.
—*British Medical Journal.*

# THE TREATMENT OF ILEUS.

Although laparotomy has come to be recognized as one of the justifiable measures in the treatment of intestinal obstruction, it is a resource which, on account of its radical character, will probably always be the last adopted. It is gratifying, therefore, to be able to add one more remedy to those already existing, which may, without any risk of harming the patient, possibly avert the necessity for so formidable an operation. Such a resource has been recently brought forward by Kussmaul and Cahn, in the *Berliner klin. Wochenschrift*, Nos. 42 and 43, 1884, and still more recently by D. C. Hasenclever, in a paper read before the Berlin Medical Society, and published in the same journal, No. 5, 1885. It consists in washing out the stomach. Hasenclever reports six cases, in all of which marked relief was afforded, and although only two recovered, the autopsies in the remainder revealed other serious lesions which necessarily rendered any treatment futile. Cahn reports three cases from Kussmaul's clinic, of which two recovered.

Still more recently, Dr. J. T. Whittaker read a paper on this subject before the Cincinnati Academy of Medicine, an abstract of which, together with the discussion which followed, is published in the current issue of this Journal (*News*). Two cases are referred to by Dr. Whittaker as occurring in his own practice, one by Dr. J. L. Cleveland, and another by Dr. William Judkins. The cases of Whittaker and Cleveland, although relieved, died, but that of Judkins recovered. It would seem also from Dr. Whittaker's paper that the primary suggestion of this treatment came, not from Germany, but from Cincinnati, and from Dr. Cleveland.

As soon as the diagnosis of obstruction is made the stomach should be washed out once or even twice a day. In this way often large quantities of fecal matter, mucus and gas, are removed, while the singultus and stercoraceous vomiting cease, and the patient experiences marked relief. Spontaneous fecal evacuations also sometimes follow. The irrigation is practised until the patient is completely relieved, or the procedure is shown to be useless. The washing is continued until the fluid comes away clear.

The rationale of this treatment cannot be definitely stated, but from the standpoint of relief to vomiting, its use is as much indicated as that of opium and ice, which, while they often relieve this symptom, nevertheless fail to remove the cause. Whether the vomiting be explained as the result of a reversed peristalsis, or be regarded as simply mechanical, the opium merely obtunds the excitability of the nervous system, and thus averts, for a time, the reflex act of vomiting, while the intestinal contents continue to accumulate. By the irrigation one element of the trouble is at least removed—the distention of the stomach and upper part of the intestine, because, as was shown by Oser, in the *Wiener Med. Blätter*, 1884, No. 41, the operation not only cleans out the stomach, but the small intestine as well; and this, too, as effectually, where there is insufficiency of the pylorus, as in acute and chronic intestinal obstruction.

As to the curative action of this treatment, where there is no insuperable obstacle against the reëstablishment of the natural evacuations, Kussmaul suggests the following explanation: 1. By removing the large accumulation of fluid in the intestine more space in the abdomen is provided, and the enormous distention of certain parts at the expense of others is avoided. 2. The peristaltic movements of the intestine, above the point of obstruction, previously violent and irregular, become more quiet and regular. 3. It is only possible to remove a remediable obstruction, such as a bend or an invagination. Hasenclever suggests that the great distention of the stomach and intestine, in addition to the presence of unusually irritating contents, may produce strong irritation of the splanchnic fibres, and a consequent inhibition of peristalsis, with paralysis of the bowel. It frequently happens in ileus, that, succeeding a period of violent, painful peristaltic motion, there follows a long period of absolute rest, in which the activity of the intestine appears to be paralyzed, and one can easily understand that after the removal of any irritating matters the inhibition grows less, so that the forces regulating peristalsis again acquire the ascendency, and produce fecal evacuations.—*Medical News.*

## SOMETHING ABOUT ASAFŒTIDA AND HYSTERIA.

Some drug-millers buy the drug and sell the powder, and sell it so cheaply that these supply a large part of the entire demand. But supposing the best practice to prevail, and see what that is. The wholesale druggist sends a case of asafœtida to the mill to be powdered. The miller sees that his men pick out the stones that would break his mill, and possibly all the sticks and rubbish that come under prominent notice, and then the remainder goes into the special drying-room for this drug. Here it is melted and dried on steam trays until a large portion of the active part, namely, the oil, is driven off, and much of the remainder of it is oxidized by the air into resin. When a small portion taken out and cooled is brittle enough to grind, the whole is cooled and powdered—and it must be so dried that it will not run or cake much in hot weather.

After such a process it is not wonderful that the powder, and the preparations made from it, are not so disagreeable as to exclude them from the stores of the pharmacists, even of fashionable neighborhoods. Nor is it more wonderful that the powder and the preparations made from it are practically worthless; and the ultimate sequence of this condition of things is that asafœtida has fallen into disuse, because it yields no definite results in use.

But there is another obstruction to the use of even bad asafœtida.

It still smells badly enough to be disagreeable to the sensual and fastidious classes of a high civilization, wherein hysteria is very prevalent in many forms, and the physician who should insist on treating his hysterical patients with either the Mixture or Tincture of either good or bad asafœtida, would simply be discharged, and in all probability a homœopath would succeed him. The officinal Mixture of good asafœtida, or the Tincture diluted with water—probably comes as near to being a cure for a large proportion of cases of hysteria as any known remedy is to any known disorder, not only because it is a true stimulant anti-spasmodic of a high degree of efficacy—but also because from the nature of many cases of hysteria the patients or subjects would have less and less frequent attacks, if in each attack a fluidrachm of Tincture of Asafœtida in a wine-glassful of water had to be taken every ten minutes until the attack was over. Powdered asafœtida in coated pills will not relieve hysteria either by physical or moral effect—nor will this powder in any form be of much use in flatulency. But pills made by the pharmacist or physician from well selected asafœtida, as described and directed by the Pharmacopœia, are very efficient in the treatment of some forms of dyspepsia, and will relieve many cases of flatulence and flatulent colic very promptly.—*An Ephemeris of Materia Medica, etc., April.*

# REVIEWS AND BOOK NOTICES.

A GUIDE TO THE DISEASES OF CHILDREN. By JAMES FREDERICK GOODHART, M.D., F.R.C.P. Revised and Edited by LOUIS STARR, M.D. With Formulæ. Philadelphia: P. Blakiston & Co., 1012, Walnut St., 1885.

This volume was prepared as a manual for medical students, and the task has been well performed. The plan of the book is simple, first introducing the student into the difficult art of examining a sick infant—an art, by the way, which no book can teach a doctor without he has some natural tact. Dentition, diet in health and disease, and the indigestions, quite naturally lead off, and are followed by chapters on diarrhœa, diseases of the mouth, including congenital deformities. The chapter on worms is very short, but full of practical matter, especially that part of it by the editor's pen.

The author adopts the definition of rötheln, by Dr. Squire: It is "a specific eruptive fever, the rash appearing during the first day of the illness, beginning on the face in rose-red spots, extending next day to the body and limbs, subsiding with the fever on the third day, and not preceded by catarrh nor followed by desquamation."

The practitioner naturally turns to the chapters on diphtheria in every new book on diseases of children. The good sense with which the subject is treated is often the test of the desirableness of the volume as an addition to one's library. We will give a quotation from our athor on tracheotomy in diphtheria: "Early operation has been defended chiefly upon the ground that the operation is not a serious one. It is *primâ facie* unreasonable to contend otherwise, if it be true, as many think, that even the membrane on the fauces should not be disturbed for fear of provoking fresh inflammation and formation of membrane; and, as a matter of fact, the operation of tracheotomy, when performed upon the diphtheritic child, is frequently followed by diffuse inflammation of the cellular tissue of the neck—the edges gape, and a large sloughy wound is formed, which becomes dry and fetid, and not unfrequently covered with membrane. But further, it is supposed that the mucous membrane of the trachea itself suffers no injury from the introduction of the tube? The richness of the glandular and blood supply and the sensitiveness of the mucous membrane to changes of temperature, make such a thing highly improbable, whilst it would be easy to show, in the clearest manner, by the evidence of the post-mortem room, that the operation itself, and the presence of a tube afterwards, are, in one way and another, fraught with danger. It is, in fact, my belief that the bronchopneumonia, the purulent bronchitis, the excessive tracheitis, so often seen in fatal cases of diphtheria, are chargeable quite as much to the operation as to the original disease. The state of the trachea in fatal cases is not calculated to impress one favorably with the harmlessness of tracheotomy; but let that pass, for it may be well said that these are the hopeless cases, *quâ* diphtheria. But even in others that do well the amount of mucus and muco-purulent discharge ejected from the tube, and the slowness with which this ceases, are sufficient to show that the mucous membrane of the trachea must in any case undergo grave alterations. For these reasons, amongst others, early tracheotomy in diphtheria must be advocated, not from its harmlessness, but upon other grounds. But hitherto these other grounds have been little appealed to in practice. The operation has been performed; if happily the membrane failed to spread—well, but no thanks treatment; the operation relieved a symptom and temporized while the disease spent itself. If death resulted it was only to be expected of the disease; the operation has taken no share of the responsibility. But if, on the other hand, we resort to an operation not immediately necessary, in the hope that by so doing some local means may be adopted which will help to combat the formation of membrane, the operation has another basis upon which it may stand of a less assailable nature. Upon this ground alone—that of the more thorough application of local remedies to the larynx—does an early operation admit of advocacy. Possibly on this ground the operation will yet justify itself and the additional risk which it necessitates be more than counterbalanced. It cannot be said that this is so at present; and, although I would urge perseverance in local measures, I still think that the operation of opening the windpipe should be deferred to the latest possible limit." Pp. 233–'34. The editor, Dr. Starr, adds: "Tracheotomy should not be too long delayed. It should be performed as soon as there are urgent symptoms, and every preparation should be made beforehand, that no valuable time may be lost during [doing?] it. The symptoms demanding operation are increasing dyspnœa, supra-sternal depression, well-marked retraction of the scrobiculus cordis, and lividity about the face and finger-tips."

The author believes that our successes of tracheotomy in diphtheria will not exceed that attained by Trousseau—one in five—but if even this be accepted as the best results, it might be added that the operation would still be a desirable one upon the ground that it saves the little patient from the agony of suffocation, and insures a tranquil death.

Tracheotomy without a tube, we notice, is becoming a common practice, and especially in young children is it desirable, as in most of the cases a proper tube would not be at hand, and because by means of a bulb pipette shreds of membranes and strings of mucus can be readily and frequently removed.

It is seldom that we can say as much for an American editor of an English book, but Dr. Starr has enhanced the value of this one greatly by judicious intercalation of paragraphs of importance; he has, in fact, made it accord with the best American practice. We would only make one criticism, and that is, that there is very little said about malarial fever, and that very indifferently. With this exception we commend the book most heartily.

On the Wasting Diseases of Infants and Children. By Eustace Smith, M.D., London. Fourth Edition. New York: Wm. Wood & Co., 56 & 58 La Fayette Place, 1885. Pp. 278.

It may not be apparent by the title what the scope of this volume is. To those who have neglected to read it heretofore, we will say that they have missed one of the best books on the diseases of children.

In the introduction is considered the interpretation of the signs of disease in children. The simple atrophy from insufficient nourishment, chronic diarrhœa, chronic vomiting, rickets, inherited syphilis, mucous disease, worms, chronic pulmonary phthisis, caseation of lymphatic glands, and a final chapter on the diet of children in health and disease, are the headings of the topics discussed. It was this volume which gained for the author so wide a reputation in this country several years ago, and the lapse of time has steadily sustained the stand then attained. This valuable work is the April number of Wood's Library, and will be welcomed by the subscribers to the series as one of the best additions to their libraries.

Kirkes' Hand-Book of Physiology. By W. Morrant Baker, F.R.C.S., and Vincent Dormer Harris, M.D. Eleventh Edition. With nearly 500 Illustrations. Vols. 1 & 2. New York: Wm. Wood & Co., 56 & 58 La Fayette Place, 1885.

This is one of the standard works on physiology, which has been used as a text-book for many years in this country and in England. Very much new matter has been added, and especially of illustrations, making it a very desirable work for study and reference. The two volumes are the February and March numbers of Wood's

Library of Standard Medical Authors, which has now become a necessity of the profession, giving indispensable volumes at the low rate of $1.25 each.

MICRO-CHEMISTRY OF POISONS. Including their Physiological, Pathological and Legal Relations; with an Appendix on the Detection and Microscopic Discrimination of Blood: Adapted to the use of the Medical Jurist, Physician and General Chemist. By THEODORE G. WORMLEY, M.D., Ph.D., LL.D. With 96 Illustrations upon Steel. Second Edition. Philadelphia: J. B. Lippincott & Co., 1885. [For sale by P. Heinsberger, 109 Market Street, Wilmington, N. C. Price $7.50.]

This is a superb volume in every way. The title page, although full, does not give an idea of the admirable manner it is prepared. The microscopic properties of poisons is the main element of the treatise, still it is by no means limited to this department: the whole science of toxicology, including chemical nature, physiological effects, symptoms following introduction of poison, fatal quantity and antidotes, receive a full and careful description.

In this, the second edition, the text has been thoroughly revised and enlarged by the introduction of illustrative cases, largely American, and by new tests and methods of recovery of poisons from organic mixtures.

The most important additions are upon the subject of gelsemium poisoning and the microscopic discrimination of blood. Gelsemine, it will be remembered, was first obtained in the pure state by Prof. Wormley in 1870, and he has contributed largely to our knowledge of the subject chemically, and its toxic properties. Dr. Wormley has to admit that no chemical antidote for the poison is yet known. In several instances, he says, the application of electricity has been found very beneficial, and one remarkable case of recovery in which morphine was employed, is given.

The appendix on the composition, detection and discrimination of blood is highly instructive, and will serve to differentiate the blood-corpuscles of man and the lower animals. The prevailing red corpuscles of six different bloods is shown in a steel plate, viz: human, dog, mouse, ox, sheep and goat blood, under an amplification of 1100 diameters, the actual measurement of the corpuscles expressed in fractions of an inch is marked in each. A chromo-lithograph of blood-spectra further illustrates the appendix. The illustrations in this volume, in addition to the remarkably clear wood-cuts, consist of sixteen steel-plate engravings by the author's wife. They are exquisitely delicate, and add greatly to the value of the volume as a scientific guide in medico-legal and other chemical studies.

The behavior of certain alkaloids with reägents is given in a table to facilitate comparisons.

The mechanical execution of this volume is very attractive, and comports entirely with the excellence of the treatise. American medicine and toxicology is greatly enriched by this work, and it must long remain a standard in the great scientific world.

THE ELEMENTS OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. A Handbook for Medical Students and Practitioners, Containing a General Account of Nutrition, Food and Digestion, and the Chemistry of the Tissues, Organs, Secretions and Excretions of the Body in Health and Disease. Together with a Method for Preparing or Separating their Chief Constituents, as also for their Examination in Detail, and an Outline Syllabus of a Practical Course of Instruction for Students. By T. CRANSTOUN CHARLES, M.D., F.C.S., etc. Illustrated with 38 Engravings on Wood and 1 Chromo-Lithograph. H. C. Lea's Son & Co,, 1884. Price $3.50.

The sub-title of this book explains the scope of its contents, and it ought to attract many readers from that class of medical men who complain so much that the chemical course they received at college was meagre and unsatisfying. This branch of medicine, though, is seldom attractive to physicians who did not receive full elementary chemical instruction preliminary to the study of medicine. There is no excuse, however, for neglect of this subject, when one can get for so small a price such a satisfactory work.

Dr. Charles was a pupil of Hoppe-Seyler, and the German teaching and opinion are naturally predominant, there being very few references to English or American authorities. The volume is practical and well adapted to the needs of the student; and as an aid to the busy physician in the examination of animal substances we highly commend it.

**SELECT PLANTS READILY ELIGIBLE FOR INDUSTRIAL CULTURE IN EXTRA-TROPICAL COUNTRIES. By BARON FERD. VON MUELLER. American Edition. Detroit, Michigan: George S. Davis. Pp. 450.**

The title page in part explains the object of this volume. It was originally issued by the Victorian Acclimatization Society, with a view of promoting the introduction and diffusion of the very many kinds of plants which may be extensively reared in the forests, fields or pastures of temperate geographic latitudes. In many respects this volume resembles the "*Origin of Cultivated Plants*," by Alphonse de Candolle, recently translated and published by Appleton, as both give very interesting accounts of the uses of plants, as well as the history of their origin and their spread into lands remote from their discovery.

**A PRACTICAL TREATISE ON PALATABLE PRESCRIBING. By B. W. PALMER, A.M., M.D. Detroit: George S. Davis, 1884.**

This is a handy little book, in which may be found a collection of prescriptions from some of the best known doctors of the world. It is so arranged that a desired prescription can be found under special heads, such as "Diseases of the Nervous System," and so on. The design of the author is to present palatable medicines, as far as consistent with therapeutical efficacy, and in this he has succeeded.

**INDEX MEDICUS,**

We are glad to announce, will be undertaken by Mr. George S. Davis, of Detroit. The superior typography of the Journal will be maintained, and, with the superior energy possessed by the new publishers, we confidently expect that *Index Medicus* will be a permanent institution. The first issue will contain the material of the January, February and March number, and after this monthly issues will continue as heretofore.

**"THE PHYSICIAN HIMSELF"**

Has reached its fourth edition. Few books have had equal success, the reason of which can be ascertained by reading it. We have expressed our opinion of it before, and believe that it will have a still larger sale.

# EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## THE APPROACHING MEETING OF THE STATE MEDICAL SOCIETY UNDER THE AMENDED LAWS.

There has been no occasion since the organization of the State Medical Society of such importance as the meeting soon to be held under the newly amended laws. The Society was incorporated in 1859, and given powers which were so negative in their bearing that they were only made operative by the discretion and wisdom of the Legislature. Now we stand in a new relation. The auxiliary bodies proceeding from this Society are vested with powers of a positive character, particularly that of the Board of Examiners, which determines the status of the profession of the entire State. Therefore, while we congratulate ourselves that we have attained to a position in the State commensurate with the dignity and responsibility of our profession, we have at the same time assumed an important office for the whole people, for the proper performance of which we may be sure they will hold us to a strict account.

On the part of the Board of Health the responsibility is also great. While that body has not the executive power of the Board of Examiners, it is entrusted with large health interests of the people—interests, unfortunately, entirely out of proportion to the means provided for their accomplishment—but dependent upon the individual aid of the members of the profession. In view of our past experience this is a slender basis upon which to found a reasonable expectation of meeting the responsibility, but we know that there is a largely increased interest manifested already.

By the time this issue will have reached our subscribers they will be familiar with the new law, and they will come to the Durham meeting prepared to say what aid they expect to render in furtherance of its provisions.

In reviewing the law in our last issue we had not seen the amendment published at page 179 in the March JOURNAL. This amendment defines that no penalties shall apply to graduates of a *regular medical college* prior to January 1st, 1880. It only remains now to determine what colleges are to be adjudged "regular."

There is one other item we wish to mention: In the amendment of the Board of Health law, Section 5, page 175, March JOURNAL, there is a clerical error, which is due to the carelessness of one of the many clerks through whom the bill passed. The clause referred to now reads: "*These Boards shall be composed of the physicians who shall have complied with the laws of the State in regard to the practice of medicine and surgery, or have a diploma from a regular medical college.*" The amendment read originally: "In those counties where there are not as many as five licensed physicians," this sentence preceding the above italicized clause.

The Durham meeting will be a large one, and the Board of Examiners will meet early enough to examine the large number of candidates to be present.

◆

Evaporation of suspected urine on a bright piece of tin, and heating the residue sufficiently, will develop the odor of burnt sugar if it be present. Hint from Dr. Groom, of Ia., in the *Medical Record.*

## THE SOCIAL FEATURES OF THE MEETINGS OF THE STATE MEDICAL SOCIETY.

We trust that the Durham Committee of arrangements will see to it that the time of the Society is not wasted in the round of social entertainments, which have marred the last two meetings. Let us not be guilty of the folly of cutting short our meetings to suit a schedule for banquets or anything else. If it can be arranged to enjoy hospitalities after business, that is well enough, but we must show a better scientific outcome before we can be satisfied to surrender our most important hours of meeting to entertainments. We know that there are a large number of members of our way of thinking about this matter, and it is well that the local committee should understand it in time.

◆

THE PROGRAMME for the Durham meeting must be arranged so as to give the morning of the second day—the 20th of May it happens to be—for the business of the State Board of Health. The law requires that elections for members of the Board shall take place on the second day of the meeting. See Section 7, page 175, *March Journal.*

◆

SHAKSPEARE'S PHYSICIAN.—In the churchyard at Fredericksburg, Va., is a tombstone on which may be deciphered these words:

"Here lies the body of
EDWARD HELDON,
Practitioner in Physics and Chirurgery. Born in Bedfordshire, England, in the year of our Lord 1542. Was cotemporary with, and one of the pall-bearers of William Shakespeare, of the Avon. After a brief illness his spirit ascended in the year of our Lord 1618—aged 76."—*Medical Record.*

A CLINICAL TEST OF LEAD POISONING.—A young man was presented before the Académie Royale de Médecine de Belgique, with plumbism, whose skin when painted with monosulphide of sodium or sulphide of ammonium, gave " well-marked lead reäction (black stain). The editor of the *Philadelphia Medical Times,* says that this is not new, but is in accordance with the observation of Pereira.

# CURRENT LITERATURE.

## SOME VALUABLE SYMPTOMS OF DISEASES. AMONG CHILDREN.

The diagnosis of many diseases of childhood being manifestly more difficult than that of affections of the more advanced phases of life, all suggestions tending to enrich their symptomatology have a just claim to our consideration. Dr. Politzer, of Vienna, the well-known authority on diseases of children, has published in the *Jahrbücher für Kinderheilkunde* an essay on the "Value of certain Symptoms of Infantile Affections" which has created a just and widespread interest. He epitomizes his conclusions in the following terms:

1. A strongly nasal or guttural sound audible when the child cries, is indicative of retro-pharyngeal abscess. The posterior wall of the pharynx should invariably be examined with the index finger, when in many cases the presence of an elastic tumor will confirm the diagnosis.

2. A noisy and slow expiration, lasting ten or fifteen times as long as normally, points, in absence of any other disease, to chorea major. This symptom, which is very characteristic, presents itself for several consecutive weeks, always at the same hour, repeating itself every seven or ten seconds. This prolonged and blowing expiration may be for months the only appreciable symptom of the affection, and disappears rapidly under the influence of large doses of quinine, but can reappear and be gradually followed by other symptoms of chorea major.

3. An inspiration which is constantly of a sighing nature, indicates the approach of cardiac marasmus and of paralysis of the heart. This symptom presents itself previous to the appearance of cyanosis, pallor of the face, and the feeble, thread-like pulse indicating the gradual failure of the circulation. This sighing respiration, in opposition to the choked respiration of croup, of pneumonia and of œdema of the glottis, is not characterized by a strong contraction of the diaphragm, nor by abdominal breathing, but by a soft and continuous sigh. Whatever may be the cause which determines the cardiac paralysis, which is often caused by drugs (heart-poisons), such as

quinine, salicylic acid, pilocarpine and digitalis, this respiratory symptom deserves great attention and occasional therapeutic treatment· The same symptom, Politzer adds, he noted in fatty degeneration of the heart in three cases.

4. A very marked diaphragmatic respiration, attended by loud and sharp whistling, denotes bronchial asthma. A similar symptom occurs sometimes in croup (where it is generally accompanied by a forced and choked respiration), and in capillary bronchitis. Other signs, however, such as loud râles without a nasal sound, the rapid development of pulmonary emphysema, the sudden appearance and disappearance of dyspnœa, and chiefly the notable remission of dyspnœa and whistling respiration during profound sleep, will aid in establishing the diagnosis.

5. The existence of a pause between the end of the expiration and the beginning of the following inspiration renders the existence of a very marked laryngeal catarrh or of croup very probable. In croup inspiration and expiration follow each other generally very closely, whilst in laryngeal catarrh we can often observe a pause between the two respiratory acts, by the repose of the diaphragm and larynx,

6. This noisy expiration with a long pause, existing since birth (stridulous respiration), which is occasionally interrupted by a spasm of ten or fifteen minutes, but which otherwise exists uniformly day and night, in sleeping and waking, is of no consequence and usually ceases spontaneously within eight months. Politzer thinks we have to deal here with a modification of innervation within physiological limits, analogous to the irregular cardiac contractions occurring during the first year of life.

Equally valuable are Politzer's conclusions regarding the symptomatology of nervous affections:

1. A notable somnolence manifesting itself without fever, and, so to speak, without any trouble, points, if lasting several days, to meningitis of the brain. The vomiting, the fixed cephalalgia, and finally the slow and irregular pulse, do not have so great a diagnostic value as the somnolence, as they may occur in several transitory and even extra-cranial troubles.

2. The anterior fontanelle notably raised beyond its normal level, but resisting and non-compressible, points to an exudation into the cranial cavity, or an increase of the cranial contents, such as in purulent meningitis of the convexity, cerebro-spinal meningitis, acute or

chronic hydrocephalus, large tumors, acute cerebral œdema and intermeningeal apoplexy. If it be an increase in vascularity, an active hyperæmia, the anterior fontanelle would remain soft and compressible. If the fontanelle be gradually raised, prominent like a corner and resisting, but without a trace of pulsation, we can be reasonably sure of having to deal with a profuse intermeningeal hæmorrhage, i. e., an apoplexy. An anterior fontanelle greatly depressed, with a concomitant depression of the eyes, indicates anæmia, resulting either from a profuse loss of the liquids of the body or from general marasmus.

3. A very slow movement of eyes and eyelids, the former remaining fixed for a long time, is a symptom of approaching basilar meningitis.

Of equal interest and value are Politzer's diagnostic suggestions respecting certain peculiar cries uttered by children in various ailments:

1. A sharp, intense cry uttered during sleep, every half-hour or hour, with a simultaneous expression of extreme anguish in the face, denotes simply nightmare, which can readily be prevented by a four-grain dose of quinine administered an hour or two before bed-time.

2. A periodical cry which often lasts five or ten minutes and is repeated frequently during the day and occasionally at night, leads to the suspicion of vesical spasm, provided colic and dyspepsia can be excluded. An emulsion of lycopodium, with or without the addition of belladonna, will give prompt relief.

3. A cry uttered during defæcation, associated with a dread of this action and even refusal to perform it, ought to prompt a search for anal fistula. Surgical interference and an ointment of zinc and belladonna will usually lead to a speedy cure.

4. An intense, almost continual cry, bespeaking great pain, denotes otitis, if the child moves its head restlessly on the cushion and puts its hands often to its head.

5. A cry uttered almost incessantly for days or weeks, and which grows more intense on moving the limbs, and is associated with a continuous fever and profuse perspiration, is an indication of acute general rachitis.

In conclusion, our author enumerates some other peculiar symptoms of several affections, which might serve as useful guides in determining their diagnosis :

1. The special physiognomy of children suffering from congenital syphilis consists in a depression of the bridge of the nose, a greyish discoloration of the skin, absence or scarcity of the eye-lashes, a yellowish border of the eye-lids, and, finally, the well-known mucous patches on the lower lip.

2. A notable feebleness and marked immobility of the limbs, which do not refer to an apparently slight or passing affection, will, after a certain length of time, assure the diagnosis of infantile spinal paralysis. Whenever the premonitory symptoms, such as fever, dyspnœa, convulsions—symptoms which, especially in nursing-children, require at all times special attention—make their appearance, the condition of motility and sensibility will be a sufficient warning of the coming danger.

3. After certain affections, such as cerebro-spinal meningitis, we ought to assure ourselves that no diminution of the visual powers, which often results from a circumscribed meningitis on the floor of the fourth ventricle, has taken place.

4. A depression of the intellectual activity in little children subsequent to the grave infectious fevers, such as typhus and typhoid, and meningitis, constitutes often the beginning of acquired idiocy: strychnine exercises an advantageous influence in these cases. The habit of keeping the hands constantly before the eyes, and of looking at them without a motive and in an automatic fashion, raises the suspicion of congenital idiocy.

5. A cranial ossification delayed beyond the physiological limits denotes rachitis.

6. A stiff and troublesome carriage in walking, sitting or bending ; a painful expression in the face when attempting to lift anything in playing, denote the initiation of Pott's disease. A laboring respiration and incessant stomachic and abdominal pain usually precede this affection for five or six weeks.

7. Persistent vomiting occurring at the ingestion of all victuals for several weeks, in children whose cranial bones are completely ossified, but whose head has an abnormally large circumference, denotes that chronic hydrocephalus has been superseded by acute hydrocephalus.—*Therapeutic Gazette.*

# TREATMENT OF RHEUMATISM WITH OIL OF GAULTHERIA.

In spite of the fact that salicylic acid and the salts may be regarded almost as specifics in the treatment of rheumatic affections, they nevertheless fail in a certain number of cases of producing any decided curative effects, while their use is likewise also frequently attended by many inconvenient symptoms. The title of an article by Dr. H. H. Seelye (*New York Medical Journal,* November 3 and 10, 1884), of "A New Specific for Rheumatism," might naturally, therefore, be expected to attract a great deal of attention. We find that Dr. Seelye has been using the oil of gaultheria for the last eighteen months in the treatment of various types of rheumatism in the wards of the Bellevue Hospital in New York, and he states that the results which followed us have been so surprising that it now is his main reliance in the treatment of all rheumatoidal affections.

This drug has also been given in a large number of cases of acute articular rheumatism in the Jena hospital, and it there also proved to be possessed of nearly as great and as prompt curative powers as salicylic acid, though having with the latter the objection of causing ringing in the ears. Prof. Rossbach, who makes this statement (*Deutsche Med. Zeit.,* December 24, 1884), could not understand how the drug was given by American practitioners as a stomachic, as it appeared to derange the digestive apparatus and destroy the appetite.

Prof. Senator also states (*Berliner Klin. Woch.,* January 5, 1885) that he has employed this oil in a number of cases of rheumatism' and finds that it is *almost* as effective as salicylic acid, though it is by no means free from the disagreeable features of the latter.

The patients, according to Dr. Seelye, almost invariably experience great relief; and, in nearly all cases, in twenty-four hours the pain and swelling have left all the joints, except perhaps one articulation, and there would only remain a slight stiffness in the previously inflamed parts. It appears, however, that the oil of gaultheria so administered produces ringing in the ears and dizziness, with headache and a sensation of fullness in the head. If the drug is persisted in after the occurrence of these symptoms, the evil effects become still more marked; the patient would then experience a loathing of the drug; nausea and vomiting would set in, and dizziness, tinnitus aurium and headache would increase; the muscles of the hands, limbs and face would become tremulous, skin flushed, and the whole body bathed in a profuse perspiration; at length the patient would become delirious, the symptoms in some instances closely resembling those of delirium tremens. It must be acknowledged, however, that these severe symptoms are stated to be exceptional; in a large majority of cases only a little ringing in the ears would be complained of, and this would soon cease upon the diminution of the dose or complete withdrawal of the drug.

The similarity between these symptoms and those produced by salicylic acid is most striking; particularly when we read that Dr. Seelye states that these extreme symptoms above alluded to almost invariably occur in patients who had been drinkers, while it is well known that salicylic acid also acts in a very unfavorable manner upon drinkers, violent delirium being the early symptoms of its influence. Further, we have other grounds for believing that there can be little doubt that these effects are to be attributed to the salicylic acid which is contained in the oil. In 1875 Prof. Proctor first proved that the acidity of the oil was due to the presence of this acid, and M. Cahours has confirmed this statement, showing that one-tenth of the oil consists of a peculiar hydro-carbon, which he called gaultheroline, the remaining nine-tenths being composed of methyl-salicylic acid, an acid which forms crystalline salts, which, when subjected to heat, are resolved into salicylic acid and wood spirit. The presence of salicylic acid in the oil is further shown by the fact that it develops a red color with ferric salts. It would then seem clear that the oil of gaultheria owes its value in the treatment ef rheumatism to the ninety per cent. of salicylic acid which it has been found to contain; the question, however, arises, is there any advantage in giving salicylic acid in the form found in oil of gaultheria over its use as a salicylate?

Dr. Seelye attempts to answer this in the affirmative by publishing a table, in which he contrasts the results of the treatment of rheumatism by the oil of gaultheria and salicylic acid, though he does not seem to be aware that the curative effects must in both cases be attributed to the same agent, and the only question can be as to the convenience of administration. This point has been very slightly touched upon, though from what we can gather from Dr. Seelye's paper, its advantages are as great, if not greater, than those of the salicylic acid as ordinarily given, and the curative results in his comparative table are so nearly identical as not to need attention. Prof. Senator, however, who appreciates the fact that in giving this oil we are only salicylic acid, points out one advantage in giving this otherwise superfluous drug, namely, that in the few cases where patients refuse to take salicylic acid, oil of gaultheria may be substituted and the patients thus receive salicylic acid without knowing it.

There is one point, however, in Dr. Seelye's paper which should be noticed ; that is, that in the treatment with oil of gaultheria six deaths occurred, and all of these patients "had unmistakable symptoms of acute alcoholism, which symptoms there is no reason to believe were induced by the oil of wintergreen." The error in the latter portion of this sentence is too serious to be overlooked. Dr. Seelye has himself already called attention to the fact that the symptoms produced by the use of this oil in drinkers simulates delirium tremens, and, as is well known, salicylic acid is most dangerous to drinkers. No one would therefore think of continuing the use of salicylic acid in drunkards, and the belief that in oil of gaultheria we have a "new specific for rheumatism," should not lull us into a false security in similar cases.

Finally, Dr. Seelye's statements as to the sedative effects of local applications of oil of gaultheria to inflamed joints is evidently to be explained by a cutaneous absorption of the salicylic acid contained in this oil, since similar applications, made by Dr. Randolph and Mr. Dixon with solutions of salicylic acid, produced the same effect, absorption of the acid being proved by its detection in the urine.—*Therapeutic Gazette.*

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ELIMINATION OF STRYCHNIA.—Dr. Peter von Rautenfeld has recently re-examined the questions as to what becomes of strychnia after it has entered the body. He says the alkaloid is eliminated unchanged, and may be recovered in the crystalline form. The *Therapeutic Gazette* believes that a portion of the strychnia is oxidized in the system.

# THE USE OF JAMAICA DOGWOOD IN NEURALGIA FOLLOWED BY UTERINE HÆMORRHAGE.

In the *Southern Practitioner* for February, 1885, Dr. C. P. McNab reports having been called to attend a woman, aged 32, about one month after the birth of a child, who complained greatly of severe supra-orbital neuralgia. The process of involution of the uterus had well advanced, and the lochia had entirely disappeared. The pain was relieved by the hypodermic use of morphia, and thirty drops of the fluid extract of Jamàica Dogwood were directed to be taken every hour, should the pain recur, until relief was obtained. As her neuralgia returned in the same evening, the remedy was used as prescribed for four hours, with the effect of relieving the pain altogether. A slight hæmorrhage from the uterus made its appearance, which was attributed at first to the regular catamenial flow, the patient being unusually plethoric, and having menstruated regularly while nursing her last child. She was directed to continue the use of the remedy should the pain return. The next day, severe pain returning in the right orbit, the remedy was again administered and thirty minims repeated in an hour. The pain was then again, for the second time, relieved, but the hæmorrhage was increased to an alarming extent. Fluid extract of ergot was then administered, and controlled the hæmorrhage. Subsequently the Jamaica dogwood and the fluid extract of ergot were combined, and were administered subsequent to this as before for the relief of neuralgia, in each instance successfully and with no further trouble as regards the production of hæmorrhage. Dr. McNab points out that, although this remedy is most successful in curing neuralgia of the fifth pair of nerves, it must be administered with caution in all cases where uterine hæmorrhage exists, or where from surrounding circumstances it might be anticipated.—*Therapeutic Gazette.*

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Witch Hazel in Hæmatamesis.—The fluid extract of this plant is uniformly reliable in cases of hæmatamesis from chronic ulcer of the stomach. It is best given in doses of the fluid extract (15 drops) four or five times a day in flax-seed tea.

# MEMBRANOUS CROUP; DIPHTHERITIC CROUP; TRUE CROUP.

The April number of *The American Journal of the Medical Sciences* contains an elaborate clinical study of true croup from the pen of Dr. J. Lewis Smith, of New York. He fully considers the etiology, anatomical characters, diagnosis, prognosis and treatment. Whatever the cause, the anatomical characters, the clinical history and the required treatment are so nearly identical that attempts to differentiate the disease when produced by other agencies than diphtheria from that due to diphtheria, have proved futile and unsatisfactory in localities where diphtheria occurs, except in a few instances, as, for example, when croup has been manifestly caused by swallowing or inhaling some irritating agent.

Dr. Smith holds that inflammation of the laryngeal and tracheal surface, whatever its cause, whenever it reaches a certain grade of severity, may be attended by the exudation of fibrin and the formation of a pseudo-membrane, but such a result more frequently occurs in the inflammation caused by diphtheria than in that produced by other agencies. In diphtheria a moderate laryngo-tracheitis is attended by the pseudo-membranous formation. Dr. Smith's experience leads him to believe that not more than one in eight cases of croup has recovered by medicinal treatment which began in the first week of diphtheria, and in which the symptoms were so pronounced as to indicate more or less laryngeal stenosis. The exudation in the first week of diphtheria, or in its active period, occurs so rapidly, and in such large quantity, that no one of the medicinal agents or modes of treatment, which physicians commonly prescribe, is sufficiently prompt in its action to prevent the formation of the pseudo-membrane to an extent that soon endangers life.

Croup occurring in the second or third week of diphtheria, since it is attended by less abundant and less rapid exudation than when it occurs during the acute stage, can be more successfully treated under the persevering use of solvent inhalations, and a larger proportion than one in eight, perhaps one in three, recovers by the early and continuous or almost continuous use of inhalations.

Still the mortality is so large, and the suffering so great in croup, at whatever stage of diphtheria it occurs, that we cannot rely on the slow action of medicines or inhalations, and surgical treatment is in most instances required to diminish the suffering and afford the best chances for saving life.

Under the head of medicinal treatment he strongly recommends trypsine as a solvent of false membrane. Of calomel he says: "The experienc of many physicians justifies the belief that mercury, and especially calomel employed within certain limits in the commencement of a pseudo-membranous inflammation, does exert some controlling action on this disease. That it did much harm formerly when physicians prescribed it as freely as we now preploy potassium chlorate, to the extent, in many instances, of increasing the cachexia and causing mercurialism, should not deter from its judicious use. In the ordinary form of diphtheria he would not advise the use of calomel, or would limit its employment to one or two doses of six to ten grains in the commencement of the disease in robust cases. But in croup, since the danger is not from the cachexia or blood-poisoning so much as from the laryngeal stenosis, which is apt to develop rapidly, that medicine is indicated, and should be prescribed, which most strongly retards the exudative process, and aids in liquefying and removing the pseudomembrane; provided that it produce no deleterious effect which renders its use inadmissible. Hence it is proper to prescribe calomel in larger doses and for a longer time in the treatment of croup, than in other forms of membranous inflammation, if it fulffl the indication, as it seems to in a measure. In his own practice, however, calomel is not prescribed after the first or second day, since Dr. Smith prefers the use of other remedial measures, which are efficient, and are less likely to produce injurious effects. The subject of surgical treatment is also fully discussed, and Dr. Smith holds that we can claim for tracheotomy judiciously performed, and at a sufficiently early stage, the cure of one in every three patients in the average.

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ONE DROP OF COCAINE HYDROCHLORATE, 4 per cent. solution, applied on a bit of cotton and put in the ear, will quickly arrest severe earache. The influence lasts from three to six hours.

# DR. WEBER ON HYGEINIC AND CLIMATIC TREATMENT OF PHTHISIS.

*Strengthening of the Skin.*—Weakness of the skin is one of the prominent features, as well in the tendency to phthisis, as in the developed disease, and ought always to be taken into consideration, and remedied, if possible. A slight change of external temperature, or exposure to a slight draught, a change of clothing, is apt to produce chill, which, by reflex action, is thrown on the lungs; it is also a frequent source of bronchitis and catarrh of the lungs, and also of digestive derangements and a great obstacle to recovery in phthisis. Constant exposure to the open air and exercise are the best tonics for the skin, and often suffice by themselves; but, in many cases, these must be combined or preceded by the judicious use of hydrotherapeutics. The skin has never been altogether neglected in England, either by medical men or by the public; while, on the Continent, the neglect was incredible, and is still so in many localities; hence systematic hydrotherapeutics have had their origin on the Continent; and in the treatment of phthisis, too, Brehmer was the first to introduce them with special modifications—namely, powerful cold douches to the chest, of very short duration. Unger, Spengler, Dettweiler, and others, have continued and modified this system. Jaccoud, Sée, and other French physicians, are powerful advocates for hydrotherapeutics. Much benefit is, no doubt, obtained by well adopted procedures; but they require most careful management by the physician. Even the ordinary treatment of the skin, in itself, ought to be guided by the physician, who will not only examine the state of the skin, but also the condition of the heart and circulation in all its bearings; the degree of reactive power must be cautiously appreciated and gradually raised. In great weakness, dry-rubbing by an attendant, of one part of the body after another, is all that can be done; then rubbing of the chest with a moist towel, and dry-rubbing afterwards; later on, a very rapid sponging with tepid, and again later with cold water, followed by a short return into bed, and a light warm breakfast. It requires already a considerable degree of reactive force to bear with advantage, on rising in the morning, the sponging of the whole body by cool or cold water, followed by brisk friction, as daily practised by the majority of us in health, and forcibly recommended by J. Henry Bennet, whose views on the hygiene in phthisis have exercised good influence. A rapid plunge into cold water is, in many cases of fair reaction, the best plan; in others, a very short shower-bath; and, again, in others, a tepid bath for a couple of minutes, followed by a momentary cold shower or plunge into cold water. Many sound hints on bathing, and on the management of the skin, may be gathered from the editor of the *Book of Health*, in his article on the skin.—*British Medical Journal, March* 28.

THE OFFICINAL AQUA CREASOTI, or Creasote Water, is so important a preparation for one special use that it is well to notice it in order to emphasize that special use. It is a simple 1 per cent. solution of wood creasote in water, and, like similar solutions of carbolic acid and of cresol, it is a most effective local anæsthetic, and topical dressing to burns and scalds. It is no better than the solutions of carbolic acid, or of coal-tar creasote, for this purpose, but is quite as good, so that whichever is most accessible or most convenient may be used. This creasote water, as made by the above formula—or diluted with an equal volume of water, or with more water for delicate surfaces in women and children—and applied by means of a single thickness of thin muslin, or worn-out cotton or linen, such as handkerchief stuff, and the application renewed from time to time, as the return of pain requires it—will relieve the pain of burns and scalds in five to ten minutes, and will maintain the relief as long as the applications are properly renewed, or until the painful stage is over. It is also very effective as a local anæsthetic for general use in all painful conditions which affect the surface only, such as the pain of erysipelas. The benumbing effect of these phenols upon the skin is very promptly reached, and can be carried to almost any degree that is desirable, by simple management of the strength of the solutions and the mode of application. They are true anæsthetics to the skin, while the much lauded cocaine is not. This statement has been published so often during the past twenty years, and the treatment has been so effective in so many hands, the old and comparatively useless and hot dressings, such as carron oil, white lead ground in oil, flour, liniments, etc., or the newer application of solution of bicarbonate of sodium.—*An Ephemeris of Materia Medica, etc., March,* 1885.

# CORRESPONDENCE.

## FISTULA IN ANO—DOUBLE HYDROCELE—OBLIQUE INGUINAL HERNIA, WITH HEMATOCELE—HEMORRHAGE FROM THE NOSE.

By W. C. Galloway, M.D., Snow Hill, N. C.

On the 13th day of last March I operated upon a negro man, 21 years old, for fistula in ano. The fistula made its exit a half inch from the left margin of the anus, and entered the rectum an inch and three-quarters above. Having just lost my probe, I explored the track with a small grooved director, the index finger of my right hand being oiled and introduced into the rectum. I withdrew the director and inserted a hernia knife, turning the cutting edge towards my finger. The internal opening being small, I made gradual pressure upon the knife until it pierced the bowel and came in contact with my finger; I then withdrew finger and knife together, cutting through skin, sphincter and gut at one sweep. Injected a weak solution of carbolic acid between the cut surfaces, and in two weeks the cure was perfect. Have operated for fistula with elastic ligature, but it is more tedious than the excision process. I, however, like either plan.

On the 14th of March a gentleman, aged 48, presented himself, suffering with a prodigious double hydrocele of fifteen year's duration, caused, so he said, by a sudden fall upon some scantling. The scrotum was stretched to its fullest capacity, and the penis, that wonderful mystic rod, the *sine qua non* of his existence, was like the head of a scared terrapin—so well drawn in that it was invisible. In fact, it presented only a cavity. The patient was a votary of Bacchus, and he had just gulped down a half pint of strong brandy, because, as he had explained, he did not want me to give him any chloral, morphia or chloroform. I placed him in a chair and took a medium-size trocar and plunged it into the right apartment, allowed the serum to escape, and then injected the tunica vaginalis with three drachms of concentrated tincture of iodine, which, on being well shaken in the bag for three or four minutes, was emptied. I then operated in the same manner upon the left side.

Patient suffered considerable pain from the injections, and I was compelled to administer nearly or quite a grain of morphia to compose him. On the second day he had some symptoms of peritonitis, which subsided in the course of six or eight days, and patient made a beautiful recovery. Before operating I had some misgivings in regard to using the strong injection of iodine, because some of the best authors, among them Ashurst, if I remember correctly (his work is not in my library), state that there is risk to run on account of the communication existing between a double hydrocele and the peritoneum. If I should have another case similar to the preceding, I think I should be tempted to operate by puncturing the scrotum into the tunica vaginalis with a trocar, passing it, after entrance, downwards and outwards again. I would then withdraw stylet and run a coarse thread through the canula, extract the canula, and allow the thread to remain until a cure was effected. If this procedure failed, I should then boldly attempt first plan, and risk the peritoneal complication. For unilateral hydrocele I do not think the tincture of iodine could well be improved upon. In three operations upon young children simply emptying the sac was sufficient.

March the 19th my friend, Dr. Powell, sent for me to see a patient of his, aged 45, suffering with an irreducible, right oblique, strangulated hernia. The rupture had from time to time given him trouble for many years. The man was taken suddenly on the afternoon of the 18th while engaged in violent exercise. On the same day Dr. Powell thoroughly chloroformed him, and used taxis and other expedients to no purpose. We concluded to try taxis again, but before doing so we prepared everything necessary—instruments, sponges, ligatures, etc., in case we failed, to operate without further delay. Dr. Powell anæsthetised him, using ⅞ ether and ⅛ chloroform. Taxis was tried unsuccessfully for a half hour. I then shaved the parts and made an oblique incision 3½ inches long from without downwards and inwards towards the pubis immediately over the hernia, cutting through skin and superficial fascia.

The different coverings were carefully cut, partly upon a grooved director and partly with the handle of a scalpel. After the sac was exposed I made a halt to explore, wishing, if possible, to return the hernia without dividing the sac. Running my finger around the internal ring, I could feel no obstruction, and yet I could not effect reduction. With a pair of forceps I held up the sac, snipped it with scalpel, inserted a director, and slit it up. I again searched for the constriction with my finger, which I could carry far enough into the abdominal cavity to feel the pulsations of the external iliac artery, but still the impediment could not be detected. The gut was closely examined and found healthy, and the epiploon, which was of considerable size, was rigidly inspected, and a small portion, about as large as the first joint of my thumb, was partly mortified. Here, of course, was the clue to the constriction. The gut was involved in the strangulation, and the epiploon was so tightly tied down by two small bridles (the epiploon swelled out on either side of the bridles) as to entirely conceal them; and when my finger partly circled the ring it came in contact with only a smooth surface, "simply that and nothing more." So very tense were the bridles that my finger could not be insinuated between them and the epiploon, so I was forced, though they were deeply situated, to divide them on a director. The diseased epiploon was pinched off, and, after dividing a few bands at the external ring where there was also a slight stricture, the hernia was returned without any further difficulty. The scrotum we found to be filled with a large quantity of sanguineous fluid, which we took to be a hematocele. This escaped readily through the external ring by making gentle but firm pressure upon the scrotum. After sponging the wound nicely with a 5 per cent. solution of carbolic acid, we closed it by putting in four interrupted silk sutures, leaving, however, the inferior edge open to allow of free drainage. A compress smeared with cosmoline was then placed over the cut surfaces and the usual bandage adjusted. Directed bowels to be locked for two days and to be evacuated by using an enema of soaped warm water. I saw the patient no more, but Dr. Powell, who visited him daily, came to my office ten days after the operation and said that the gentleman's pulse never rose above 85 (his pulse was naturally slow), and his temperature did not at any time reach beyond 100. Not one single untoward symptom supervened. The party is now able, by the aid of a truss, to go wherever he desires.

I have had three severe cases of hemorrhage of the nose to arrest by plugging the posterior nares with sponge. Ragweed, that Dr. Hill extolled so highly at the Tarborough Convention, did not stop them, nor anything else short of plugging; though in justice to the dear, lamented, potent ragweed (do give me a better and a more scientific name for the homespun plant), I must confess that it seemed to do some good in one case.

I prefer a gum catheter (male) to any other instrument for the purpose of conducting the threads through the channels, and my index and middle fingers to forceps for pulling the catheter through the mouth.

## NOTES OF A COUNTRY DOCTOR.

*To the Editor of the North Carolina Medical Journal:*

### A NEW GALACTAGOGUE.

The discovery of any medicine, article of diet, or mode of treatment which will increase the flow of milk in nursing women, will be hailed with pleasure by the profession, and should be placed on record. The following case is given for what it is worth, and with the hope that the fruit will be further tried and the results published. No attempt is made to explain the physiological action or the ***modus operandi*** of the fruit. The writer does not recollect having seen this treatment alluded to by any author.

Mrs. R., at 25, is the mother of three living children. In the infancy of the two older ones the flow of milk was plentiful—almost excessive. The third child was born in September last. When the babe was a week old she noticed that the flow of milk was not as free as usual, and that the child seemed hungry, even after nursing. Under medical advice she took various remedies, rich diet, fluids in quantity, and though her general health was perfect, tonics were prescribed, all to no purpose. It was finally decided to supplement the child's nourishment with cow's milk. Six ounces of milk diluted with an equal quantity of water and sweetened with sugar, were given in the twenty-four hours. As this constipated the child's bowels, two to four ounces of corn meal gruel were given every morning. Under this treatment the child thrived for three months. The mother, in spite of all treatment, did not increase in the quantity of milk. In December a relative living in Florida sent Mrs. R. a box of oranges. Two days after their reception she noticed an increase in the flow of milk, and expressed the opinion that eating oranges caused it. I had never heard of this fruit as a lactagogue, and asked her to suspend the eating of oranges for a few days to test the matter. This she did, and found that the milk did not flow so freely. She commenced the use of oranges regularly, three a day, as long as her box lasted, with a plentiful flow of milk all the while.

Mrs. R. is now visiting in Florida, and writes me that if the orange crop holds out, she has no fears as to the baby's support.

### A PHYSIOLOGICAL ENIGMA.

M. was a rather delicate child, aged 1 year. She was disposed to pick and eat grains of sand, pebbles, etc., and her nurse had noticed that if common starch, such as is used for laundry purposes, was given her, she had no desire to eat sand. The mother was warned by two physicians of the danger of allowing her child to eat starch—was told that a child of that age could not digest starchy foods, and that it was dangerous to give the raw article in that manner. Without her daily handful of starch the child was peevish, fretful and running down; with it, she was bright and cheerful, and digested it well, contrary to all physiologists I ever read after.

P. S.—Mrs. R. has returned from Florida after a three months visit. She brought a quantity of oranges, but does not find as much necessity for them now as formerly, several days sometimes elapsing without her eating an orange. Again, if the flow is not at any time free enough, a couple of oranges will in one to two hours increase it to an abundance. It was intended to try the effects of kindred fruits, as the lemon, lime, etc., in the shape of *'ades* (lemonades) on the flow of milk, but she is now giving it freely enough for all purposes without any treatment, and the trial in this case would hardly be a fair one.

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Salicylate of Soda on the Uterus.—M. Bapette says that salicylate of soda may prove very useful in dysmenorrhœa, relieving the pain and facilitating the discharge. Given in doses from one drachm to one and a half drachms it produced marked relief in three cases within an hour.—*Therapeutic Gazette.*

# ATTORNEY GENERAL DAVIDSON'S CONSTRUCTION OF THE NEWLY AMENDED LAWS REGARDING THE PRACTICE OF MEDICINE.

In response to a request addressed to the Attorney General, the following opinion was given, which we lay before our readers at the earliest moment:

NORTH CAROLINA,
ATTORNEY GENERAL DEPARTMENT,
RALEIGH, April 21, 1885.

THOMAS F. WOOD, M.D., *Secretary North Carolina Board of Health, Wilmington, N. C.:*

DEAR SIR:—The *Proviso* in Section 3,122 of "The Code" was stricken out by Chapter 117, Section 1, Laws 1855. By Section 2 of the same act Section 3,132 of "The Code" was amended by making "the practice of medicine or surgery, without having obtained license from said Board of Examiners," a misdemeanor, punishable by fine not less than twenty-five, and not more than one hundred dollars, or imprisonment, at the discretion of the court. Chapter 261 Laws of 1885, further amends Section 3,132 of "The Code" by adding the words: "*Provided* that the Section shall not apply to physicians who have a diploma from a regular medical college prior to January the 1st, one thousand eight hundred and eighty."

Section 5 of Chapter 237 of Laws of 1885, entitled "An Act Relating to the Board of Health," provides that the County Board of Health shall "be composed of physicians who shall have complied with the laws of the State in regard to the practice of medicine and surgery, or have a diploma from a regular medical college."

From a perusal of these provisions the following conclusions seem to me to be irresistible:

1. No person is eligible to the position of a member of the County Board of Health who cannot lawfully practice medicine or surgery in this State.

2. It is unlawful for any one to practice medicine or surgery in this State who has not been duly licensed therefor by "the Board of Medical Examiners of the State of North Carolina;" but persons who, prior to the 1st of January 1880, have received a diploma from a regular medical college, need not be licensed.

I am, sir, very truly yours,

THEO. F. DAVIDSON, Attorney General.

## PROGRESS OF MEDICINE.

TRACHEOTOMY in diphtheria saves but few persons who take the disease in severe epidemics, according to Dr. Jacobi; this opinion is founded upon fifty consecutive unsuccessful tracheotomies during a period of two years.

THERE are more men in the country to-day who would seize the first opportunity presenting to get out an ovarian tumor, or an ovary, than there were thirty years ago who would have been willing to cut a tonsil.—*Emmett.*

A CASE of *pernicious anemia* recovered under the treatment of Dr. Guy Hinsdale, as reported in the April number of the *American Journal of Medical Sciences.* The case extended over two years, terminating in normal blood count and full bodily vigor.

TO DETERMINE NITRATES IN DRINKING WATER.—Evaporate one or two cubic centimètres of suspected water to dryness in a capsule, adding half a cubic centimètre of a solution of brucia and ferrous sulphate, then, dropping in ten drops of sulphuric acid, and comparing the red tint formed with a similar one formed by a standard solution of potassic nitrate.—*Hatfield Walker in British Medical Journal.*

NITRATE OF AMYL IN ARRESTING CONVULSIONS.—Dr. Eustace Smith speaks highly of the influence of this drug over convulsions. The remedy may be given by the mouth or by inhalation. To infants six or nine months old, one-quarter of a drop may be given in mucilage three or four times a day: the inhalation of a single drop will often speedily arrest an eclamptic seizure, even when dependent upon cerebral disease. He gives it without fear of danger in young children.

INHALATION OF TINCTURE BENZOIN IN INFLUENZA AND CATARRH. Upon the suggestion of Mr. Kebbell, Dr. Brydon has used tincture benzoin in nasal catarrh by inhalation, and the relief he obtained in a short time was remarkable. The uncomfortable tight and stuffy feeling of the nostrils, along with lacrymation and headache, speedily disappeared, and by repeating the inhalation frequently all the unpleasant symptoms were overcome.

**TREATMENT OF NEGLECTED SHOULDER PRESENTATION.**—In such cases where version cannot be accomplished, and the death of the child is apparent, Dr. Wm. Donaldson, of Llanidloes, recommends the removal of the wedged shoulder by a very simple operation, namely, dissecting a sleeve of skin from the child's arm with the finger, breaking the clavicle with the finger also—or with the blunt hook in exceptional cases—when the entire wedged mass of the shoulder-joint, including the scapula, can be drawn away through the protecting sleeve, and the subsequent version thus greatly facilitated, and attended with much less risk than the forcible introduction of the hand, or traction on the foot after.

**CALENDULATED BORIC ACID FOR CHRONIC PURULENT INFLAMMATION OF THE MIDDLE EAR.**—Dr. Charles H. Burnett recommends calendulated boric acid by insufflation for the middle ear in cases of chronic suppuration, and it is made as follows: Triturate together equal parts by weight of boric acid and tincture of calendula. Evaporate the calendula down in a water-bath, at a temperature of about 150° F., to a pasty consistence, and then mix with one-half the boric acid; evaporate to dryness, add the other half and triturate. This to be mixed with twice its weight of pure boric acid, and further triturated when it is ready for use. Dr. Burnett gives illustrative cases, comparing the superiority of the dry over the wet treatment.

**DIGITALIS IN FEVER.**—A high temperature lessens the inhibiting power of the vagus centre in the medulla to such an extent that digitalis, and probably all drugs which act like it on this centre, to a great extent, their power of restraining the heart and slowing the pulse. When the body temperature falls the restraining action of digitalis on the heart is restored. If fever runs high, then we cannot expect from digitalis its usual effect on the pulse rate; but it must be remembered that since the slowing influence of digitalis will come into play when the body temperature falls, doses given at the height of fever may cause undue depression of the pulse rate as soon as defervescence begins. In pneumonia, for example, digitalis has no action on the pulse whilst the fever runs high, but, if given at this time, it induces abnormally low pulse rate and temperature when the crisis begins.—*Medical Chronicle, April* 1885.

MANAGEMENT OF SHOULDER PRESENTATIONS.—Dr. E. F. Wells, of Minster, Ohio, reports in the *Journal of the American Medical Association*, April 11, the conversion of a shoulder presentation with prolapse of cord, into a vertex presentation and restoration of the cord by placing the patient in the "knee-chest" position. His patient was in labor with her thirteenth child, and when he arrived he found the cord prolapsed, the left shoulder presenting at the pelvic brim, the amniotic fluid drained away, the vagina and os uteri swollen, dry, hot and painful. The cord was pulseless, but warm and moist, but had been pulsating only a short time before. He placed the patient in the knee-chest position before proceeding to turn, when he found he could readily push up the shoulder and by external manipulation bring down the head, which was done. Maintaining the parts in position, directing the patient to rise upright on her knees, he soon had the satisfaction of seeing the head engaged in the superior strait. The labor was easily terminated, the child being dead.

CONVENIENT AND EFFICIENT ANTISEPTICS.—We are very much pleased with some disinfecting agents and appliances sent for our examination by Messrs. Parke, Davis & Co., of Detroit. The sample of chlorinated soda is up to the highest standard, giving to the profession and the public, in the best condition, this disinfectant and antiseptic, which recent experiments have replaced at the head of the list. The solution of chlorides slightly odorized with gaultheria affords a most elegant and efficient disinfecting solution for surgical purposes, and in the lying-in chamber. The pastiles of sulphur, also made by this firm, give in a convenient form a means for the evolution of sulphurous acid gas. The pastiles have simply to be lighted with a match, and they burn until all the sulphur is consumed. Another convenience is the prepared blocks for disinfecting urinals and chamber vessels. The material is an insoluble block, saturated with disinfecting substance. It is lasting and efficient. Still another disinfectant is that suggested by Dr. B. W. Richardson, which consists of sulphur, chlorine, bromine and iodine in solution with alcohol, which is burned in a lamp, emitting disinfecting properties. This is a simple portable arrangement, which can easily be made available in every sick room. We recommend these articles with confidence for the sick room and public hospitals. They are all well known substances, but have been made specially available, on an economical scale, by this enterprising firm.

# THE PREVENTION OF EPIDEMICS.

[Read in the section of Public Medicine at the annual meeting of the British Medical Association, by Ezra M. Hunt, M.D., N. J.]

In this brief paper I only attempt a syllabus of the method in which we should conduct our inquiries in order to accomplish more in the prevention of epidemics. In dividing up and assigning this study of epidemics, the following are the chief inquiries and observations to be made:

1. What is the *contagium vivum?* As to this, we have to determine in what its entity consists; whether it be particulate or gaseous, whether it be so specific and singular in its character that it is always the same as to quantity or quality; or, if capable of modification, how it can be modified; whether it be always derived, or whether it be produced so as to be in a sense spontaneous. In a word, we must study the contagium so as to know the most possible about it in its own individuality.

It is almost unnecessary to say that the germ theory of disease has immensely broadened this part of our study; but perhaps it is needful to say that the fact that we are nearer than ever before to the identification of certain or most contagia, does not clear up the question as to whether they are derived or spontaneous, or how the benign bacillus becomes malign. It does not settle their origin, and so does not by original dealing with the entity, assure us how we can prevent its existence, and so radically prevent epidemics.

Most contagia thus far seem identified with plant life. We may get lessons as to modes of study from the fact that many communicable diseases seem to have to do with plant life.

It is not surprising that Hallier, Panum, De Barry, Cohn, Thome, Darwin and others who were early in these studies, were botanists, and it has seemed to me that we would have done well, in our study and classification of this infinitesimal life, to have followed still more closely in their methods. The botany and zoology of microscopic parasitic life will doubtless have yet a classification well nigh as extended as that which belongs to life in its more visible forms.

The worker in this field is in a garden of contending vegetations in which it is not enough to say that each spore or germ or seed will produce its kind. *Omne ovum ab ovo* is true enough in animal life, but this does not prove the impossibility of a mule, or of some other product, or of a disease equally unique in its way. It is a marvel to see how the same seed can be so cultured that its products may be greatly varied, and how marvellous are the hybrids or sports that may result. To me the views of Pasteur do not seem to conflict with those of Bastian, nor does the doctrine of a result in disease, so modified as to almost defy identification, or so crossed as to give a mongrel, or what practically as to treatment is new, at all lean to the doctrine of spontaneous generation as formerly taught. Cholera, typhoid fever, diphtheria, etc., may some day become existences amid intense disturbances of natural processes. Although how generally occurring from derived sources, this does not preclude the possibility of their occurrence locally and sporadically without an antecedent disease—the only antecedent being the same disturbance of natural processes. It is strange that nitric acid and glycerine—the one corrosive, the other emollient—should have been so long handled in the chemical laboratory before nitro-glycerine should have begun to exist. So, from special relationship of ordinary filth and extraordinary atmospheric conditions there probably have come, and probably will come, new diseases, the origin of which we do not define when we find a germ however much it may aid us in diagnosis.

2. Our next study, though allied, is quite distinct. Failing to find the seed or contagium, or destroying it, how shall we make of its *virum* a case of suspended animation? How shall we sterilize it? I will not here discuss its culture in order to enfeeble it, as this is going on well enough. But I allude to the study of how we may provide it a sterile soil, either in the surroundings or in the person. This involves a close study of each contagium, on what it flourishes best within and without.

While the name filth-diseases is a convenient generalization, we are not exact in our study until we accurately define decompositions, putrefactions, associated animal or plant life, so as not only to affirm, for instance, that vegetable decay causes periodic fevers, and animal excretion typhoid fever, but also to carry the details of observation of facts and of experiment, to an extent which shall enable us to approach the exactness of the botanist, who says the silk-worm thrives best on mulberry, and that the potato-bug has an especial relish for the egg plant. For the prevention of epidemics there is this special field of study as to all the minute conditions or surroundings outside the body. We shall have gained very much when these scientific or expert methods, which are applied by the skillful naturalist, for instance, to all harmful or poisonous plants or insects, are applied to all embarrassments to our lives productive of disease as found outside and about us.

While the first plan, that of discovering a germ, is radical, yet it is not necessarily indispensible, if we can so apprehend the necessary conditions for propagation so as to circumvent these. Hence students of this second class are not to be discomfited, even if the first study be incomplete.

III. The study of the individual in his relation to the *contagium vivum*, and to his surroundings, is another distinct study, inviting to another class of skilled observers—a laboratory in which minute work is much needed.

1. Under what circumstances does a human being come to be the host of something inimical to him, and prepared for an invasion of something producing disease? It is not enough to say of it that it is its nature to seek or to be communicated to human beings, and to develop into a disease. The fact that some persons, without having had a disease, are proof against its invasion, is a significant one, and worthy of great interest to those who would like to put all in the same restful condition. The fact that once having had a disease protects most from them afterwards, or does not protect some, or, while protecting all, does not protect all for an equal period, cannot but make the epidemiologist very inquisitive to find out the reason, and so put it into effective preventive operation. Watson and others have stated that it is because the disease exhausts its necessary pabulum in the system; but if this be so, the statement is incomplete until we find out what pabulum it has wasted and what it has exhausted. As in the old system of inoculation it was discovered that by diet or by certain preparative treatment, small-pox could be modified in virulency, and the secondary fever aborted, the why and the wherefore should not be given up by the modern medical profession, as it apparently had to be in the former.

2. When, too, we find that, as in inoculation to prevent pleuro-pneumonia in cattle, we secure an inflammatory reaction, and a constitutional effect through a muscle, and so prevent the fatal attack on a vital organ like the lung by a sort of artificial metastasis, we need to study how much of diversion and limitation of epidemics can be secured by their artificial and preliminary introduction into some part other than that which it seems their habit to attack with

virulence. How much of the modified effect is owing to the mode of introduction rather than to attenuation?

3. Still further, if we know that changes can be so wrought in systems as to make them unreceptive of diseases, as we know to be the fact with many ailments, cannot and do not quinine, alcohol, potassium-chloride, ferric chloride and other anti-microphytes, anti-zootics, or antiseptics cause the blood and tissues to be protected from the invasion while there is exposure thereunto, and so may we not prevent epidemics?

We know by actual experiments and observation that we can see the blood corpuscles multiplying during the administration of iron, and can, with small doses of quinine, potassium-chloride, arsenic, etc., have the sustained presence of these in the blood. There is good reason for thinking that during such presence the blood and tissues become resistant to that multiplying plant life which either directly, or by its overpowering abundance, or by mechanical clogging of blood-paths, constitute the gravity of the disease; also that we can anticipate the action of the introduced contagium and make the system refuse to nourish or propagate the parasite. Thus, either all may escape the prevailing influence, or so many that it cannot prevail among the people, and so cannot become epidemic. This temporary prophylaxis during what, for want of a better term, has sometimes been called an epidemic tendency or constitution of the atmosphere, is most worthy of accurate trial. As to its reality, many corroborative facts from Polli, Parkes, Panum, Bart, etc., can be adduced.

Then, last of all, comes the question of the limitation of diseases in their attempt to become epidemics, and after they have so become, the former being most valuable forethought, the latter being not unimportant forethought. This limitation involves the study of the natural history of every communicable disease in all its minutiæ, that we may know its times and seasons, the distance at which it can be propagated, the length of period of its communicability, the secretions or families most likely to convey it, the relation of breath and of air to it, and all other facts which are relative to its transmissibility; and, as a sequel, comes in a study of isolation and of disinfection, etc., as a system of rules and regulations.

Our imperfect knowledge does not hinder us from general rules and methods founded on apparently correct generalizations as to all communicable diseases, and specifications as to some, so far as we know.

The most inspiring result of what we may call the modern departure in epidemology, is not so much the conclusiveness or completeness of facts in any one direction as the unmistakable indications of precision in the laws of communicable diseases, these being as accurate as those that obtain in nature, giving us the comfortable persuasion that they are ascertainable and classifiable, although for various reasons difficult of ascertainment, but likely to yield to analytic and statistical methods, and to that tact of experience in observation which can be acquired, but cannot be described:

The chief contentions of this paper are, therefore, as follows:

1. In the study of the *contagium vivum* we are to recognize not only change from culture or attenuation, but, as in plant life and animal life, to recognize manifold changes which may take place, so discursive as to obscure identity, and so as to make what in pathology and treatment what may be a new disease, without involving the doctrine of spontaneous generation.

2. We must give significance to the effect of imparting a disease to the system by channels or modes of introduction different from what may be called its normal method of entrance, and allow for modification of effect from this cause without any real attenuation.

3. We must study closely not only the general effects of surroundings, but the fertilization or rankness which some diseases attain from a compost especially adapted to them.

4. We need, with the same precision and in a similar direction, to ascertain what are the conditions of individuals who furnish in themselves extraordinary soil for communicable disease, or who withstand seizure amid exposure, or have but a mild attack, and to recognize that there are ascertainable reasons for this difference, a definite law of susceptibility.

5. We need to give great prominence to a study of direct prophylactic methods, and such as shall seek, during exposure or the prevalence of an epidemic, to prevent an attack by imparting to the blood and tissues the presence of such substances as shall prevent those changes which an introduced morbific agent would otherwise set up.—*British Medical Journal.*

## SMOKING AND CANCER.

The *British Medical Journal* very properly reproves the anti-tobacconists for making capital out of the newspaper reports which attribute General Grant's condition to smoking. Dr. C. Partsch in the *Habilitationschrift*, Breslau, 1883, reports 98 cases of cancer of the lip, and states that amongst the irritants to which might have been attributed the disease, or awaked it from a dormant state, tobacco had little place. Ten of the cases were in women. The fact that cancer often originates in moles and warts, suggests to one that in cancers of the epithelial type, there exists before malignancy a colony of bastard cells, which in some only await irritation to become malignant, in others need no stimulus. In smoking the brunt of irritation is borne by the anterior lateral surface of the tongue. In General Grant's case the cancer is situated at the base of the tongue and palatine arch. If the seeds of disease were already there any stimulating article of food would cause them to sprout as well as tobacco. If the latter alone could change normal cells into malignant ones, the cancer should have been situated in the anterior lateral portion of the tongue.

One year ago I exercised an epithelioma from the left side of the lower lip (where the pipe is held) of a man who had never used tobacco in any shape, whose adjacent teeth were perfect, who did not shave, and had had no injury there. Last December, assisted by Dr. H. H. Mudd, I removed, through submaxillary incision, nearly the entire tongue and the right anterior palatine fold from a gentleman whose case resembles much the published reports of the case of General Grant. Up to date this patient is perfectly well. He had never used tobacco, but dated his trouble from a wound caused by a fish-bone—in fact, he thought, when he applied to me, that I would find a foreign body in the base of the tongue.—*St. Louis Medical and Surgical Journal, J. C. Mulhall, M.D., Editor.*

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Stains on the Teeth.—For removing stains from the teeth Dr. A. W. Harlan (*Jour. Am. Med. Ass.*) says: "Adjust a rubber dam, dry the teeth, paint three or four times with the compound tincture of iodine, allowing it to dry; then moisten with stronger ammonia, and wash with peroxide of hydrogen and polish."

# ABSORPTION OF SALICYLIC ACID.

From time to time, very interesting and important facts are developed in the Biological Laboratory of the University of Pennsylvania. Drs. N. A. Randolph and Samuel G. Dixon have recently published a suggestive note on the absorption of salicylic acid (*The Medical News*, February 14, 1885).

Salicylic acid, rubbed up in a thin paste with olive oil, was applied to the uninjured skin in seven cases of rheumatism. In each of the seven cases the presence of the drug in the urine was demonstrated by the ferric chloride test. Existing rheumatic attacks were relieved in six cases; a negative result was obtained in one case.

The constitutional impress of the drug was obtained by application to the axilla, side of the chest and the affected joint, Drs. Randolph and Dixon are inclined to believe that the remedy has a specific local effect.

The drug proved an irritant to the skin in but one case.

The advantages of the exhibition of salicylic acid by the skin are numerous and important. The irritant effect of the remedy upon the gastric mucous membrane, and its disagreeable taste, frequently contraindicate administration *per os*.

This subject is worthy of thorough investigation. Quinine has been ehhibited by injunction for a long period of time. Absorption, however, is neither so rapid nor so certain, moreover, the local action of the drug on the skin is of a highly irritant character.—*Journal and Examiner*, *March*, 1885.

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Successful Treatment of Thread-Worms.—Dr. Millard, of New York, in a communication to the *Medical Record*, calls attention to the fact that the habitat of the oxyuris, or thread-worm, is not the rectum, but, as pointed out by Cobbold, in the colon, and especially the cæcum. In the treatment of a case of a lady 23 years of age, after injections and local treatment had entirely failed, he obtained a rapid cure by administering forty-five drops of Parke, Davis & Co.'s fluid extract of pomegranate-root before each meal; santonine (gr. iss–ij) between meals and at bedtime, with sulphate-of-soda-waters (Pullna, Marienbad) before breakfast, to cleanse the mucus from the intestinal tract.—*Medical Times.*

# THE RESULT OF THE FIRST EXAMINATION OF THE VIRGINIA MEDICAL EXAMINING BOARD.

We learn from the *Medical News* of the 25th of April, that there were two candidates for license examined prior to a meeting of the Board—one was accepted, the other rejected.

At the recent regular session there were twenty-five applicants before the Board, all but one of whom were graduates; of this number nineteen passed a satisfactory examination and six rejected. The rejected applicants are required by law to wait three months before they can again apply for examination.

The Board is desirous to correct a prevailing impression in some quarters that the examination of *graduates* would be a mere matter of form, and trust that the recent examinations will prove that this view is altogether erroneous.

BABYHOOD: Devoted exclusively to the Care of Infants and Young Children and the General Interests of the Nursery. Published at Spruce Street, New York, at $1.50 a year, 15 cents a number.

We have received all the numbers of this excellent little periodical, and really must apologize for not telling our readers before how valuable it is. It undertakes to give advice to mothers on all the subjects appertaining to the health interests and sudden sicknesses of the children, together with advice about the wardrobe, and many topics of interest discussed by correspondents. The articles on medical topics are by some of the recognized teachers in the profession, and while divested of technicalities, are far removed from the sensational writing so often met with in newspapers. Send for one number for your wife, and you will see why we consider it the best instructor in household hygienics and "babyhood."

CHLORAL HYDRATE is being substituted for cantharides as a vesicant. The powdered chloral is dusted on ordinary adhesive plaster, gently heated and applied to the part. In ten minutes blisters are produced. The advantages claimed for it are: rapidity of action, almost painless, and free from the bad effects resulting from absorption of cantharides.

# OFFICERS OF THE MEDICAL SOCIETY OF NORTH CAROLINA AND ITS AUXILIARY BODIES.

President—Dr. W. C. McDuffie, Fayetteville.
Secretary—Dr. Walter C. Murphy, South Washington.
Treasurer—Dr. R. L. Payne, Jr., Lexington.
Orator—Dr. L. Julien Picöt, Littleton.
Essayist—Hubert Haywood, M.D., Raleigh.
Chairmen of Sections—Surgery—Dr. J. A. Stevens, Clinton.
Pathology and Microscopy—Dr. John M. Manning, Pittsborough.
Obstetrics and Gynecology—Dr. H. B. Weaver, Weaverville.
Diseases of Children—Dr. George L. Lloyd, Tarborough.
Materia Medica and Therapeutics—Dr. W. O. McDowell, Scotland Neck.
Practice of Medicine—Dr. S. S. Satchwell, Rocky Point.

The following physicians compose the Board of Medical Examiners of North Carolina from 1885 to 1891 :

Surgery—Dr. William R. Wood, President.
Chemistry and Pharmacy—Dr. W. J. H. Bellamy, Secretary.
Anatomy—Dr. P. L. Murphy.
Practice of Medicine—Dr. Willis Alston.
Materia Medica and Therapeutics—Dr. Francis Duffy.
Physiology—Dr. J. A. Reagan.
Obstetrics and Diseases of Women—Dr. A. W. Knox.

The following compose the North Carolina Board of Health :

Dr. J. W. Jones, Tarborough, President.
" Thomas F. Wood, Wilmington, Secretary and Treasurer.
" R. L. Payne, Lexington.
" S. S. Satchwell, Rocky Point.
" John McDonald, Washington.
" Richard H. Lewis, Raleigh.
" Samuel H. Lyle, Franklin, Macon county.
Arthur Winslow, C. E., Raleigh.
Prof. W. G. Simmons, Wake Forest College.

These bodies meet in Durham, N. C., from 18th to 22d May, 1885.

# HUTCHISON ON EXTRACAPSULAR FRACTURE OF THE NECK OF THE THIGH BONE.

In the *Medical News* of December 13, 1884, is a report of an interesting case of extracapsular fracture of the neck of the thigh bone, read at the New York Surgical Society by Dr. Joseph C. Hutchison. A patient, a medical man, aged fifty-six, and of considerable weight, was on August 31 thrown violently from an overturned carriage. Immediately after the accident he walked, with a little assistance, five or six steps. He suffered deep-seated and severe pain in the right trochanter major, which had received the force of the blow. After he had been put to bed it was found, on careful examination by Prof. F. H. Hamilton and two other medical men, that there was no eversion of the limb, and that the foot could be inverted by the patient to a moderate degree. The skin was contused directly over the outer side of the trochanter, and an absence of bruises at any other part of the surface proved that this process had received the full force of the fall. No manipulation was made for the purpose of detecting crepitus. The patient could not raise the heel from the bed, but was able to flex the thigh slightly upon the pelvis by bending the knee-joint. On the following day Dr. Hamilton observed depression of the right trochanter, and an unnatural fulness in the inguinal region, which, with the development of muscular twitchings during the night about the seat of the injury, in addition to the signs previously mentioned, convinced him that there was an impact extracapsular fracture. According to Dr. Hamilton, muscular spasm in this region, after a recent injury, is generally pathognomonic of fracture of the cervix femoris. On the next day the patient was removed to his home, which was two hundred miles distant. No apparatus was applied, as the surgical knowledge of the patient induced him to keep the limb quiet during the journey. He was carried from the hotel to the station on an improvised stretcher, and travelled by train in a private car, in which he lay on a spring mattress, being turned upon his injured side, so that the trochanter major was well pressed upon. At the end of his railway journey, he was removed to his home in an ambulance. The injured limb was treated for three days by lateral pressure against the trochanter by means of a heavy bag of sand, and application of a suspended weight to the leg, not for extension, but to steady the limb and to relieve muscular spasm. Afterwards Halsted's modified form of Volkmann's splint was applied. Towards the end of the third week a marked painless swelling, unmistakably callus, was noticed in the groin, just outside the femoral vessels, which disappeared in due time. The patient got out of bed on the forty-second day, moved about on crutches on the following day, and was able to walk without a stick on the eighty-fourth day. Eleven months after the injury there was nothing to indicate that the patient had had a fracture of the femur, except diminished prominence of the trochanter major, flattening of the corresponding side of the nates, and an unnatural fulness in the inguinal region. There was no limp, and the motions of the joint were perfect.

In this case, Dr. Hutchison points out, two of the most important signs of fracture of the neck of the femur, whether impacted or not, were absent. There was no pain on pressure over the trochanter, and no eversion of the limb. Outward rotation of the limb, in this class of injury, is the rule, but exceptional cases have been recorded in which the limb was inverted, or the position of the foot was normal. The position depends upon the direction of the fracturing force. When this is applied directly upon the outer surface of the trochanter in the direction of the axis of the neck, as in the case here reported, the whole base of the cervix is implanted into the trochanteric portion of the femur, and the limb will retain its natural position. In considering whether this was a case of fracture or of some injury which did not involve the integrity of the bone, Dr. Hutchison alludes to the difficulty that sometimes attends the diagnosis of fracture of the neck of the femur, and to the facts that most of the symptoms of fracture may be present in cases in which the neck of the femur is uninjured, and, on the other hand, that fracture may be unaccompanied at first by the more important of the usual diagnostic signs. In the case under consideration the pathognomonic symptoms of fracture were, firstly, depression of the trochanter major on the injured side; secondly, the spasms or twitchings in the muscles surrounding the joint during sleep; and thirdly, the deposit of callus, towards the end of the third week, in the groin, on the outer side of the femoral vessels, and just below below Poupart's ligament.

In the treatment of any case of suspected impacted fracture of the neck of the femur, the most important point, Dr. Hutchison asserts, is to maintain the impaction. The surgeon should not incur the risk of damaging his patient by instituting any examination in order to produce crepitus, and it is better that malposition of the limb should not be corrected, than that impaction should be broken up by unwarrantable manipulation and the union of the fragments thereby endangered. The most suitable treatment consists in keeping the patient at rest, in avoiding undue manipulations, in moderate extension in the straight position in order to steady the limb, and in applying lateral pressure over the trochanter by means of a sandbag or of a long external splint, or by the use of Volkmann's splint. Violent extension would disengage and displace the impacted fragments, and so make non-union almost inevitable.

W. Johnson Smith, *in the London Medical Record.*

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## READING NOTICE.

Messrs. William R. Warner & Co.'s Concentrated Pepsin in Powder is a preparation much appreciated by all who have occasion to use pepsin in scales, and especially where a concentrated article is required. It forms a clear solution, retains a pulvurulent condition, and mixes with other substances. The use of this preparation in cases of ulcers of various parts of the body—particularly those of the stomach—has given very satisfactory results, from its power of dissolving albuminous products. This pepsin has been found useful as an application to diphtheritic ulcers; also for indigestion of children, who take it without much trouble. Again, this preparation is found very useful in nervous vomiting and diarrhœa. I find this pepsin has many more times the power of digestion than the saccharated form. The advantages of Warner & Co.'s Pepsin—as, indeed, of all their preparations—are that it is uniform and reliable.—*Virginia Medical Monthly.*

NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

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# SELECTED PAPERS.

## THERAPEUTICS OF DIGITALIS.

The following is a resumé of contributions by F. Williams, Ringer and Sainsbury, Donaldson and Stevens, Kaufmann, Brunton and Cash, van der Heide, Nickles and J. Stewart:

In the employment of digitalis as a remedial agent, we are usually influenced by our views on its physiological action on tissues and organs, as well as by our experience of its utility in various forms of disease, and it is therefore of importance that we should distinguish between opinions as to physiological action, which may be fully relied on, and those concerning which divergent views are held by competent observers.

Wood, in the third edition of his "Treatise on Therapeutics," published in 1879, p. 139, says, with regard to the effects of digitalis on the circulation: "The following proposition expresses our present knowledge, and probably is very close to the truth: Digitalis in moderate doses stimulates the musculo-motor portion of the heart (probably its contained ganglia), increases the activity of the inhibitory apparatus, and causes contraction of the arterioles, probably by an action on the vaso-motor centres in the cord. As a consequence of the first action, the cardiac beats become much stronger; as the result of the last, there is narrowing of the blood-paths, and to the passage of the vital fluid an increased resistance, which, acting on the already excited inhibitory system, aids in the slowing of the pulse. * * * Poisonous doses induce, after a time, increase of the pulse rate, with smallness and weakness of the wave, and lowered arterial pressure." Experiments made by various observers since this was written, tend to confirm the views above stated as regards the influence of the drug on tension and pulse rate. But they have led to very opposite conclusions as to the effect of digitalis in strengthening the heart's action and contracting the arterioles.

In 1881 Dr. Francis Williams, of Boston, published in the *Archiv für experimentelle Path. und Pharm.*, a record of experiments which led him to the conclusion that digitalis does not narrow the arterioles. He worked on the separated frog's heart, which he fed first with unpoisoned blood, then with blood containing digitalin, estimating the pressure by a manometer connected with the aorta by an inelastic tube. Under the influence of digitalin the amplitude of the heart-beats increased, and more blood being ejected with each systole, the manometer indicated a rise of blood pressure. He attributes the increase in amplitude of the heart's pulsations to an alteration produced by the drug in the elasticity of the muscle, and not to an increase in the heart's power. From the analogy of the blood-pressure curve taken in the carotid of a dog under the influence of digitalin with that he obtained from the separated frog's heart, he infers that the cause of the increased tension is the same in both.

Now contraction of arterioles plays no part, of course, in the phenomena observed when digitalin acts on the isolated frog's heart, and Williams contends, therefore, that it plays no part in the high tension produced by digitalin in man.

Schmiedeberg fully accepts the conclusions arrived at by Williams, whose investigations were indeed conducted in the laboratory of the Strasburg professor. "Digitalin and allied substances," he says, "change in a peculiar manner the elasticity of the heart's muscle without at first interfering with its contractility. As a consequence of this, increase of the pulse-volume with lengthening of the diastolic pause takes place; the working power of the heart is neither increased nor decreased at this stage; but the quantity of blood sent into aorta in each unit of time is augmented, notwithstanding the lessened number of pulsations. These conditions cause greater fulness of the arteries, as the relative work of the heart is thereby increased. In this way the blood-pressure is raised."* He denies that the rise in blood-pressure is attended by diminution in the calibre of the vessels.

In 1883 Ringer and Sainsbury communicated to the Medico-Chirurgical Society an account of their experiments made to ascertain the influence of digitalis and allied substances on the circulation. Their efforts were chiefly directed to find out whether contraction of the arterioles was caused by these agents. To determine this they tied a canula into the abdominal aorta of the decapitated and pithed tortoise; the canula was connected with a reservoir of 6 per cent. chloride of sodium solution, which was allowed to flow through the arteries and tissues of the lower extremities, and caught and measured as it emerged from the cut ends of the abdominal veins. It was found that the flow took place at a tolerably equal rate in equal times; but that by the introduction of a small percentage of certain substances into the salt solution, the discharge of fluid through the veins could be greatly diminished, and it was inferred that this diminution could only be connected with a decrease in the size of the arterioles. The introduction of a very small quantity of digitalin [5 per cent. of a 1 per cent. solution] caused the flow from the abdominal veins to fall one-fourth of the amount discharged before the addition of the drug. On replacing the poisoned by pure salt solution the outflow trom the veins at once increased, to be again decreased if digitalin were added. The experiments were often repeated, and other substances, such as convallamarin, were tried. They were found to produce like effects, but none of them had so powerful an influence as digitalin.

Experiments of a similar kind on warm-blooded animals yielded corresponding results, and Ringer and Sainsbury, therefore, hold that contraction of the arterioles undoubtedly takes place when digitalin is introduced into the circulation. From further experiments, in which the vaso-motor centre was left uninjured and subjected to the influence of digitalin, they concluded that the drug acts directly on the vessels, and not through the centre.

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*Grundriss der Arzneimittellehre, 1883, p. 81.

In 1883, also, two American observers, Donaldson and Stevens, published, in the *Journal of Physiology*, a paper, from which it appeared that experiments on the heart of the frog and terrapin had led them to conclusions very different from those of Williams and Schmiedeberg.

They passed through the heart *in situ* pure blood, and blood poisoned with digitalis, and estimating the heart's work by the amount of blood ejected from the aorta per minute, they found that in the majority of their experiments digitalin caused a decrease in the amount of work done by the heart. They found, however, like previous observers, that it increases blood-pressure, and affirm that this increase is due to constriction of the arterioles by contraction of their muscular coats. The existence of such contraction, they consider, is proved by the results of experiments which they made, similar in character to those recorded by Ringer and Sainsbury.

Kauffmann's researches on the action of digitalis, published in 1884, lead him to hold views entirely in accord with those expressed by Wood. "Digitalis," he says, "increases the mechanical work of the heart, augmenting the cardiac contractions, and the volume of the blood-waves, and it also slightly augments arterial tension by its central and peripheral excitation of the vaso-motor nerves." Kaufmann's experiments were made on mammals, and he asserts they prove that intracardial pressure, both diastolic and systolic, is increased under the influence of digitalis.

Notwithstanding the arguments of Williams and Schmiedeberg against the contracting influence of digitalis on the arterioles, the balance of evidence is in favor of its existence; yet in the clinical use of the drug we have to remember that doubts on this point are entertained by some whose opinion is entitled to high value.

Donaldson and Stevens stand alone in the views they hold with regard to the depressing influence of digitalis on the heart's work, and as a recent writer in the *Therapeutic Gazette* (February, 1885, p. 119) points out, a careful study of their ingenious investigations shows that "the evidence upon which their conclusions are based is not as positive and free from contradiction as might appear at first sight."

The opinion of Williams and Schmiedeberg that digitalis influences the elasticity of the heart-muscle is not incompatible with the views usually held as to its action as a cardiac stimulant. The statement, indeed, of these writers that the quantity of blood sent into the aorta under the influence of digitalis is augmented without the working power of the heart being increased is somewhat difficult of comprehension.

Drs. Brunton and Cash, in their paper on the influence of digitalis on febrile temperatures, supply information of great value in the practical use of this drug.

They point out that in the cat and in all animals in which the vagus centre exerts a considerable restraining influence on the pulse, as it does in man, the heart's action, though somewhat quickened, owing to stimulation of the cardiac ganglia, is at first but slightly affected by a rise of body temperature; but when the temperature of the animal reaches about 39° C. the pulse suddenly increases greatly in rapidity. They adduce experimental evidence to prove that this increase is due to the weakening effect of the high temperature on the vagus centre in the medulla, and to a less extent on the peripheral termination of this nerve. If digitalis be given, it prevents, for a time, this sudden rise of the pulse-rate; but when the temperature of the animal reaches 41° to 41·5° C., the drug loses its power to control the heart's action through the vagus, and the pulse-rise takes place.

A high temperature then lessens the inhibitory power of the vagus centre in the medulla to such an extent that digitalis, and probably all drugs which act like it on this centre, lose, to a great extent, their power of restraining the heart and slowing the pulse.

When the body temperature falls, the restraining action of digitalis on the heart is restored. If fever runs high, then we cannot expect from digitalis its usual effect on the pulse-rate; but it must be remembered that since the slowing influence of digitalis will come into play when the body temperature falls, doses given at the height of fever may cause undue depression of the pulse-rate as soon as defervescence begins. In pneumonia, for example, digitalis has no action on the pulse whilst the fever runs high, but, if given at this time, it induces an abnormally low pulse-rate and temperature when the crisis begins.

Dr. van der Heide has made careful observations in the pathological laboratory, at Amsterdam, on the cumulative effect of digitalin and helleboreïn, and on the influence of these drugs upon temperature.

It has been long noted that whilst large doses of digitalin depress body heat, a slight rise of temperature takes place after the injection of small doses, and opinions have differed as to whether this rise was due to the digitalin or to the irritation of the injection. Dr. van der Heide is inclined to think his experiments show that a slight rise of temperature is really produced by small doses of digitalin in healthy animals. To test cumulative action he administered the drug in varying quantities for several days to dogs and rabbits, giving for the most part one dose daily. In dogs he found that its influence was indicated by decreased rapidity and irregular action of the heart, and that the effect of several consecutive doses lasted an extraordinary time after the administration of the drug ceased; it could be detected, indeed, in some animals for four weeks. Reduction in speed was the most prominent symptom. Van der Heide found that return to the normal rate was not a continuous process, but that temporary acceleration often occurred some days after administration of the drug ceased, and then the slowing again set in; the pulse only returned to normal frequency after a series of such oscillations. The duration of the irregularity of the heart's action, produced by continuous doses of digitalis, depended on the severity of this disturbance, and, as was the case with the rate of pulsation, the return to the normal was not continuous. The most marked effect of digitalin, judged by duration and intensity combined, occurred, sometimes after the third, sometimes after the sixth dose. Death at times ensued from several daily repetitions of non-lethal doses, but if the dose was rapidly increased its influence on the intensity of the symptoms produced was not proportional to the increase in the dose, and he surmises that in addition to cumulative action a certain amount of tolerance is established.

The nervous system is influenced in a different manner. Gradually increasing doses at first affect it but little, then suddenly, restlessness, trembling, apathy, and other nervous symptoms appear, but after a few days tolerance is established and the indications of nervous disturbance pass away, even though the administration of the same dose of the drug is continued. Van der Heide infers that cumulative action and tolerance are to be noted both with regard to the circulatory and nervous systems, but that the cumulative influence is most pronounced on the circulation whilst the establishment of tolerance is most distinct as regards the nervous system.

The effects on rabbits of continuous doses of digitalin were somewhat similar to, but less marked, than those seen in dogs, neith r cumulative action nor tolerance being quite so evident. He found that small doses repeated several times daily did not produce so much effect on the circulation as slightly larger doses given every twenty-four hours, but he states that small doses often repeated are more effectual than large doses often repeated. With regard to the cause of cumulative action we get no new light from van der Heide's researches. It cannot be due to deficiency in solubility, for he used helleboreïn in many of his experiments because of its easy solubility, yet the cumulative action was as well seen as when he employed digitalin, which is not readily soluble in water.

The long-lasting effects of digitalis which van der Heide noted, and the curious influence produced by varying the size and frequency of the dose, are points well worthy of remembrance in the clinical use of this drug.

The papers by Nickles and Stewart on digitalis give good *résumés* of effects produced by the drug ; it is somewhat curious, however, that Dr. Nickles, who aims at setting forth the most recent additions to our knowledge concerning the action of digitalis, adopts the views of Schmiedeberg and Williams as to its effects on the heart and arterioles, and does not even mention the later observations by Ringer and Sainsbury, and his fellow-countrymen Donaldson and Stevens. The paper by Dr. Stewart, which is the substance of a lecture given at the Montreal McGill University to his class, is an admirable example of the manner in which a somewhat difficult subject, such as the physiological and therapeutic effects of digitalis, may be made comprehensible to students.

D. J. LEECH, *in Medical Chronicle.*

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CITRATE OF CAFFEINE does not, as was anticipated, produce anæsthesia when applied to the eye in solution.

# ABSTRACT OF LETTSOMIAN LECTURES ON DISORDERS OF DIGESTION—THEIR CONSEQUENCES AND TREATMENT.

Delivered at the Medical Society of London on Monday, January 19th, 1885.

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Biliousness and indigestion are terms used so frequently together that we do not always sufficiently distinguish between them. Biliousness is, in all probability, of complex origin. The difficulty we have in ascertaining the exact causation of biliousness is no doubt largely due to the fact that disturbance of the liver affects the stomach and intestines, and *vice versâ.* The arrangement of the bloodvessels in the liver and alimentary canal accounts for the close connection of these structures. Dr. Brunton, has found, by a number of experiments on the artificial circulation of blood through the livers of rabbits, that the liver is highly elastic. When the bottle containing the blood was raised two or three feet above the liver, so as to increase the pressure under which the blood flowed through it, the organ expanded almost like a sponge, and again contracted when the pressure was diminished. In the experiments the rate of flow from the hepatic veins was very variable; the rate appeared to depend upon the quality of the blood. A vicious circle may be readily formed by the production of venous engorgement of the liver from the absorption of the products of imperfect digestion. Fasting and the use of medicines may break this vicious circle. Dr. Beaumont's observations on Alexis St. Martin proved the close connection between the tongue and stomach. Stimulation of the gastric mucous membrane by gentle rubbing with a glass rod or feather may cause the same changes in the stomach as the ingestion of food. Pallor and secretion of mucus are caused by strong irritation, and stronger irritation still causes nausea and vomiting. These experiments throw light on the condition known as biliousness. The varying states of the appetite may be explained. Dr. Beaumont observed once in Alexis St. Martin that the tongue had a thin whitish fur when the appetite was craving, the stomach showed several red spots and patches abraded of the mucous coat, tender and irritable; the gastric digestion was prolonged to seven hours. Here there was indigestion. Two days later the usual appetite was gone, the tongue was thinly coated of a yellowish tint the face was sallow, and the stomach showed several deep-red patches. Mucus and bile were present in the stomach, and coated a muslin bag. The sallowness showed that the condition was one of biliousness, and that the liver was involved. On the succeeding days the venous congestion of the stomach was increased. Persons who suffer from malaria may suffer from disturbance first in the liver and next in the stomach, the opposite to that just described. Malarial poison, whether it be a bacillus or not, appears to have a particular power to affect the liver, spleen and vaso-motor centres. The usual symptoms of indigestion are flatulence, weight in the epigastrium, acidity and pain; and it may be worth while to try to ascertain the conditions to which each of these symptoms is due. Analysis of gastric gas shows that it chiefly consists of the gases of the atmosphere from which the oxygen has been absorbed. The gastro-intestinal mucous membrane may secrete gas in large quantities. Malarial patients may suffer from a tendency to flatulence without any other symptom; this being probably due to obstruction of the portal circulation of the liver. Flatulence may be associated with cardiac distress, as in running to catch a train, and as occurs in patients with cardiac distrain, as the term "heart-wind" of Dr. Mitchell Bruce indicates. Decomposition of food may give rise to the formation of gas. Gas may pass from the intestines into the stomach. Excessive swallowing of air is regarded by Dr. Brunton as the most frequent cause of gastric flatulence. Tenacious fluids like pea soup carry down a good deal of air. The conditions which give rise to frequent swallowing of air are: (1) Continued salivation; (2) a sense of irritation at the back of the throat; (3) a feeling of acidity in the stomach; and (4) a feeling of oppression about the epigastrium. Irritation of the vagus, as Czermak showed, is the cause of the feeling of constriction across the chest like a huge iron band clutching it, known to the Germans as "beklemmung." Depressing emotions probably act on the vagus nerve centre. Frequent swallowing may overcome the feeling of constriction, since Kronecker showed that swallowing does away with the vagus cardiac inhibition; the popular phrase "swallowed his grief" is related to this. The observations of Ebstein and Zeckendorf seem to show that hysterical distension of the intestines is due to paralysis of the pylorus. An analysis by Kolbe and Ruge of the gases passed per annum by a man after different kinds of food appears to show that it is the production of marsh gas, which chiefly gives rise to the flatulence of the intestines. Marsh gas may be passed in eructations. Ewald had a curious case under his care, in which the patient was astounded to find, on trying to light a cigar, that inflammable gas was issuing from the mouth. Persistent eructations of sulphuretted hydrogen point to serious organic disease.

Acidity and flatulence may alternate in the same individual. The feeling of acidity is not always due to the acid, but to an increased sensitiveness of the stomach or œsophagus, or to some abnormal condition of the cardiac orifice. Swallowing a piece of hot potato proves that the œsophagus is more sensitive than the stomach.

Dr. McNaught has shown that in irritative dyspepsia the acidity was not above the normal, and Professor Talma, of Utrecht, has proved the same thing by giving to patients who suffer from acidity an artificial gastric juice containing only the normal proportion of hydrochloric acid, and yet they suffered from the feeling of acidity. Increased formation of acid by the decomposition of food may cause the feeling of acidity.

The pain of heartburn seems to be due to irritation of the cardia and of the œsophagus, seeing that the pain of the stomach is rather a feeling of weight than of pain. An escape of wind may give relief. It may be that the wind stretches the cardia, and so allows the acid contents to come in contact with that structure. Colic may rarely be due to violent spasm of the stomach. Alkaloids absorbed from the rectum into the general circulation produce greater effects, as Mr. Savory showed for strychnia, than when absorbed higher up, probably because the liver has the power of excreting these bodies.

Retarded hepatic circulation, by preventing the too rapid absorption of the peptones, may prove of service to the organism. In his article on diabetes in Reynold's System of Medicine, Dr. Brunton has insisted on the difference between glycosuria and true diabetes. Lehmann found that sugar injected into the mesenteric veins of a rabbit during digestion does not appear in the urine, although the same quantity injected in the same way in a fasting animal would produce glycosuria.

In some statistics of life insurance drawn up in New York one out of every eleven healthy persons was found to present traces of albumen in the urine. Some experiments by Leube on 119 soldiers showed that in 4 per cent. the morning urine contained albumen, and albuminuria occurred in no less than 16 per cent. after a severe march. Parkes found about 10 per cent. of temporary albuminuria in hospital patients. Dr. Warburton Begbie writes: "It is surely a satisfactory consideration that a condition of excessive albuminuria—the urine becoming nearly solid by heat and nitric acid—may, after all, not indicate the coexistence of any structural change in the kidney. The albuminous substances in the blood appear to consist of such large molecules that they will not diffuse through the healthy glomeruli, but the products of digestion, peptones and hemialbumose will diffuse through the glomeruli. The white of egg appears to have a smaller molecule than serum albumen. Dr. Brunton swallowed six eggs in rapid succession, with the result that no albuminuria followed, though a violent headache, with sickness, were produced. Dr. D'Arcy Power, however, succeeded in taking a sufficient number of eggs to cause albuminuria. In this case the digestion was unable to deal with all the egg albumen ingested. The different kinds of albumen may be distinguished by noting the temperature required to cause coagulation. Stokvis proved that hemi-albumose injected under the skin may pass out of the kidneys without producing any injury to these organs, but if the injections be frequently repeated organic diseases may be set up. Oxaluria, like albuminuria, may be transient.

According to Esbach, cabbage is singularly free from oxalate of lime, and oxaluria, caused by its ingestion, must be due to some other cause than simple excretion. Esbach points out that if a reducing agent, like suphuretted hydrogen, be added to a strong solution of urates, crystals of oxalate of lime are at once produced.

Shortness of breath may be due to dyspepsia; this may be mechanical from distension, or it may be due to disturbance of the circulation. Actual asthmatic attacks may occur in relation with disturbed digestion.

The "stomach cough" was next considered. Stomach irritation may supplement irritation of the pharynx, and the combined irritation be sufficient to excite reflex coughing. The pharynx is the place where the respiratory and digestive tracts cross one another, and irritation may here excite coughing and vomiting; this site, too, is readily affected by digestive disorders. Faintness, shortness of breath and intermittent pulse are signs due to disturbance of the heart from indigestion, produced either mechanically or through the nervous system. Alkaloids may be formed in the intestine and absorbed there, acting like digitalis on the heart. Alkaloids, acting like muscarine, are formed from the decomposition of albuminis outside the body. The microbe of cholera may act by producing alkaloids. What is the cause of sudden death in some gouty patients? It is possible that the contracted kidneys may be unable to excrete a cardiac poison assumed to be formed by disordered digestion in such cases. Some symptoms of indigestion—languor and disability to move—resemble poisoning by curare, and these symptoms may be due to the production of an alkaloid in the intestines. The researches of Ludwig and Schmidt-Mulheim render it probable that peptones are the poisonous agents in such cases. Bocci has found that, from human urine, an alkaloid can be extracted which has exactly the same action as curare. This alkaloid has not been shown to be the same as that obtained by Brieger from the peptones formed by the digestion of fibrin with gastric juice, to which he has given the name of peptotoxin. Bile is not always bitter, though organic alkaloids may be. The absence of bitterness from freshly secreted bile has been observed by Dr. Brunton and Mr. W. E. Green, of Sandown; by the latter in a case of biliary fistula. It is conjectured that the bitterness of gall is dependent on admixture with alkaloids. Bence Jones and Dupré have shown that the liver and some other animal organs yield an alkaloid resembling quinine in many of its actions.

The Greeks showed their wisdom by locating hypochrondriasis under the ribs and when they made use of the term melancholia. In the "Histoire de ma Vie," George Sands says: "Whether it is the bile which has made me melancholy or the melancholy which has made me bilious—this would resolve a great metaphysical and physiological problem which I will not take up—it is certain that sharp pains in the liver produce symptoms in all those who are subject to them of profound sadness and a wish to die. Since my disease first appeared I have had happy years, and when it seized me again, although I was in the condition most favorable to love of life, I felt myself suddenly seized by a desire for eternal repose." Sydney Smith describes in a very humorous way the connection between low spirits and dyspepsia. People are fully alive to the liability of poisoning from sewer gas, but they do not perhaps sufficiently bear in mind the danger they are in from the putrefactive products formed in the inside of the body. Senator described a most instructive case in which the patient became collapsed and nearly died with all the symptoms of poisoning by sulphuretted hydrogen generated in his own intestines. Dr. Golding Bird has described a particular class of nervous symptoms in which hypochondriasis and depression of spirits are accompanied by a deposit of oxalate of lime in the urine. Dr. Roberts says, "these symptoms may be present in typical completeness without oxaluria, and conversely, oxaluria may exist in the highest intensity, and even go on to the formation of a mulberry calculus, without causing any of the above-mentioned symptoms." Murchison and Garrod have treated of the irritability due to poisonous substances in the blood.

Headaches are usually due to decayed teeth or irregularity in the eyes; when from the latter the pain is usually occipital or frontal, but it may be temporal. In headache from indigestion the upper surface of the eyeball will be found excessively tender, and the tension in the globe appears to be increased. As the subjects of such headaches grow older the headaches tend to be replaced by giddiness, and this change occurs about the period when the eyes are becoming hypermetropic.

With regard to the treatment of disturbances in the digestive function, the first step towards restoring it to health is to remove, if possible, the disturbing causes. Imperfect mastication is one of the commonest causes of disordered digestion. Man is a low-pressure engine, and works almost all his organs considerably under their full power. A healthy stomach can usually digest a good deal more than it is commonly called upon to do. There is, however, a limit to all things, and that limit is more easily reached in some cases than in others. The reserve powers of any function gradually diminish as age increases. If the mind be excited in any way, the movements of mastication are apt to sympathize with the mental excitement. It is evident that, during meals, all ideas of action to be taken by the individual himself should be banished from the mind. Reading anything which interests strongly should not be done during meal time; and solitary meals are, as a rule, to be avoided, for the presence of a companion serves to maintain the nervous activity to which reference was made in the first lecture as an important factor in perfect digestion. The condition of the teeth is another cause of imperfect mastication. No teeth at all is far better than a few teeth; an absolutely toothless old man may masticate and enjoy even hard toast, and here the gums may be like the mandibles of a turtle. The nature of the food plays a considerable part in the process of perfect mastication; for if the meat be tough or the bread new, proper comminution is impossible, and so digestion is more difficult. The fine subdivision of fatty food is also of great importance in regard to its digestion. The fat of hot mutton is indigestible because it cannot be pulverized, whilst cold fat can, The more minutely we can subdivide the fat the more easily it is digested. Many years ago Professor Hugo Kronecker asked Dr. Brunton: "How should butter be spread in a sandwich? Should the whole of it be put on one slice of bread and the other slice of bread simply put over the top of it, or should the pat of butter be divided into halves and one of them spread on each piece of bread?" The professor answered the question: "The butter should be divided into halves, and one spread on each piece of bread, because in this way the butter is more minutely subdivided, and thus not only gives a more agreeable taste, but is more readily digested." In regard to butchers' meat, there are great differences, depending both on the kind of meat used and at its condition at the time of cooking. Meat cooked in a state of rigor mortis was tough to eat, but the old Romans used to eat still a newer meat; they suffocated their fowls in wine and cooked them forthwith, so that both meat which is perfectly freshly killed, and also meat which has been kept for a sufficient time, are tender. Dr. Brunton thought the taste for "high" meat was an acquired and morbid one. Eating high meat may overtax the antiseptic powers of the gastric juice and bile. The Esquimaux and Icelanders can consume decomposing food to an extraordinary extent without suffering. The effect of keeping may, to a certain extent, be imitated by the application of a vegetable digestive ferment. In the West Indies a tough beefsteak is rendered tender by rubbing it with the juice of a fresh papaw fruit, which contains a ferment, papaine, having an action very much like the trypsin of the pancreas. Bad cooking is another cause of imperfect digestion. Pleasant and repulsive food will act on the stomach through the nerve centres; while the idea of pleasant food will excite appetite, the very idea of unpleasant food will excite disgust, and even bring on nausea and vomiting. The appearance of the table furniture may also exert an influence on the digestion. That food itself is a moral agent has long been recognized, and has found expression in the proverb, "A hungry man is an angry man." The favor with which Isaac blessed Jacob was augmented by the ingestion of savory meats. Cookery may not only be a powerful moral agent in regard to individuals, but may be of great service in regenrating a nation. "Schools of cookery for the wives of working men in this country will do more to abolish drinking habits than any number of teetotal associations." A clear-headed clergyman in New York has perceived that dentistry may be a moral agent, and he has insisted on all the people attending his mission chapel keeping their teeth in good condition. Since the clergyman adopted this plan he has had very much less trouble from drunkenness in his congregation. In Switzerland the relation between the consumption of alcohol and the quality of the cookery has recently been investigated. Savory substances probably stimulate the circulation of the blood in the nervous centres.

Another important question is the kind of food which a person may eat. The appetite is the best guide for the healthy man. As Dr. Austin Flint very sensibly puts it, "the diet should be regulated by the appetite, the palate, and by common sense." The duration of the meal is an important item, and the comfort of digestion at a *table d'hôte* may be safely attributed to the forced slowness of the progress of the meal.

The pleasurable sensation of perfect satisfaction, ease and quiescence of body and mind should be the criterion of sufficient alimentation. To effect this most agreeable of sensations and conditions—the real elysian satisfaction of the reasonable epicure—timely attention must be paid to the preliminary processes, such as thorough mastication and moderate or slow deglutition.

Many a man has been saved much misery by a weak stomach, which punished its owner by sickness or headache whenever he tried to overburden it, and thus checked his tendency towards excess at the very outset. The late Professor Laycock observed that patients recovering from a severe illness not infrequently have a craving for salt herrings, pork or ham; but the fact is that these patients really want salt, and if salt be given them in the form of a mixture the appetite is appeased and the harm is avoided which the herring or ham might have caused. The degrees of digestibility of various meats, fruits, vegetables and drinks were discussed at length. Sour wines are apt to set up gastric catarrh. A single glass of good wine sometimes disagrees, and some of the people who suffer in this manner also have an unpleasant burning feeling in the gullet whilst swallowing the wine, and Dr. Brunton suggests that hyperæsthesia of the mucous membrane may have something to say in the matter. Coffee does not affect the stomach to such an extent as tea. In its preparation, however, a substance called caffeon is produced, and this, along with the caffein which is present in coffee and tea, appears to dilate the abdominal vessels and cause a feeling of fulness in the abdomen, with a tendency to piles in some persons.

Another cause of imperfect indigestion is fatigue. When exhausted it is far better to get forty winks before dinner than after. Walking or other exercise after a long day's work and prior to dinner, by exhausting the nervous system, was a potent cause of indigestion. Effects somewhat similar to those of fatigue may be produced by depressing or disturbing mental emotions or bodily conditions. Different emotions appear to affect specially, not only different organs like the heart and intestinal canal, but different parts of the digestive apparatus. Thus disgust affects the stomach, causing vomiting; fear is seen, in some of the lower animals, to affect the rectum, causing defacation ; compassion affects the small intestine, producing borborygmus ; worry and anxiety appear to have a very special influence upon the liver. In treating indigestion due to injurious mental influences, bromide of potassium, either alone or combined with bromide of ammonium, is very useful, both in lessening the sensibility of the nervous system to worry and in procuring sleep ; for, as Shakespeare truly says :

> "Sorrow's weight doth heavier grow,
> Through debt that bankrupt sleep doth sorrow owe."

Disorders of the genital organs are apt to give rise to mental depression and to digestive derangements.

The pathology of indigestion and the action of remedies cannot be properly understood unless we bear in mind the intimate relation which exists between the alimentary canal and the rest of the body.

The gastric tonics are chiefly vegetable bitters, and they increase the appetite, lessen flatulence and tend to diminish discomfort and languor. Nux vomica is one of the most useful of this class, and the great benefit derived from its use is probably due to its stimulating action on the nerve centres, by which the coördination of the digestive processes is rendered more perfect. Carminatives tend to disperse flatulence; the ethers and volatile oils probably act by increasing the movements of the stomach and intestine, and altering them in such a way as to allow the gases they contain to escape upwards or downwards. Charcoal, subnitrate of bismuth and binoxide of manganese would appear to act largely mechanically; and cases of dyspepsia are reported which have been successfully treated by the administration of fine sand. The ethers and alcohols are closely allied to the carminatives. The difficulty about alcohol is to define its place. There is a great deal of practical truth in the definition of dirt as "matter in the wrong place." In regard to the use of alcohol in dyspepsia, Dr. Brunton thought St. Paul's advice to Timothy was very good: "Drink no longer water, but use a little wine for thy stomach's sake and thine often infirmities." Another important chapter in treatment is the removal of waste products. The regular action of the bowels must be maintained at all cost. Headache from constipation is probably due, in part at least, to poisonous products formed in the intestine and absorbed from it, for Brieger noticed that it was only in the first stages of albuminous decomposition that alkaloids are formed, and afterwards they seem to disappear. So that prolonged constipation without headache may be explained. The manner in which the salts of Carlsbad are used at the site of their natural origin accounts for the greater benefit derived from them than when they are used at home. The shipping has a powerful influence on the heart, as already pointed out in the first lecture.

One cause of biliousness, which deserves attention, is the alteration in the condition of the bile itself. Biliousness is accompanied by two different conditions of biliary flow. In the one kind the stools are clay-colored from the absence of bile; in the other, the stools are either normal or are dark-colored, from excess of bile. Certain bodies of the aromatic series have a powerful action upon the secretion of bile. Salicylate of soda is a powerful hepatic stimulant, increasing greatly the quantity and rendering very fluid the consistence of the bile. Other substances of the aromatic series, especially toluylendiamin, greatly increase the quantity of solids in the bile, so that sometimes the bile, from being viscid and thick, will no longer flow through the biliary capillaries, and jaundice results. A similar action may be exerted by poisons manufactured in the intestines. Mercurials may have an antiseptic action in addition to their other well-known effects. Horse exercise acts in a mechanical manner on the liver, tending to squeeze the bile out of the organ into the intestines; rowing, or its imitation in the gymnasium, may effect the same purpose. The alteratives, though ill-understood as is the manner of their action, must occupy an important place. The acids are probably a means of carrying out nitrogen in the form of ammonia, nitrogen which should normally pass out as urea. Nitro-hydrochloric acid is found to be clinically useful in patients suffering from eructations of sulphuretted hydrogen; it is also useful in oxaluria and depression of spirits. Ammonia and chloride of ammonium have a powerful action on the liver. Ammoniacal salts increase the formation of glycogen. Diuretics are useful in some cases of indigestion. Hot water is thus useful in some cases of gouty dyspepsia. Alkalies increase the diuretic effect, and effervescent citrate or tartrate of rotash is useful, both as a diuretic and as a local sedative to the stomach in neurotic and gouty gastralgia. By the frequent use of water as a diluent, either alone or with salines, the consequences of indigestion in regard to the lungs, heart and head may often be averted or remedied. Asthma in gouty subjects is, perhaps, best treated by a mixture of bromide and iodide of potassium, and the addition of a little arsenic is said to increase the effect. Bromide of potassium is frequently useful in cases of intermittent pulse, though Dr. W. Begbie used with success a remedy composed of two grains of powdered rhubarb, ten of subnitrate of bismuth, one and a half of nux vomica, and three of compound cinnamon powder, to be taken before meals, and, if there be acidity, ten grains of bicarbonate of soda or of magnesia may be added to it. It may be given in water or in a wafer swallowed along with a little water. Giddiness frequently takes the place of headache in persons of middle age suffering from biliousness, and both headache and giddiness are frequently connected with disorders of vision. Bilious headaches with tenderness of the globe of the eye may be relieved by small doses of salicylate of soda, half a grain in an ounce of water being taken every quarter of an hour or half an hour. Considerable attention ought also to be given in confirmed cases of indigestion to a most important method first introduced to notice by Weir Mitchell—namely, massage. A case of most profound emaciation, apparently dependent upon tubercular peritonitis, was narrated by Dr. Brunton, in which the effects of massage seemed little short of marvellous. From the hasty sketch given of the disorders of digestion Dr. Brunton thought it would appear that although our knowledge of the subject is still very imperfect, yet a large number of observations have been accumulated which we may hope will, before long, enable us to understand the pathology more fully and to treat these disorders more perfectly.—*London Lancet.*

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# AN OPERATION FOR DISPLACED SEMILUNAR CARTILAGE.

By Thomas Annandale, F.R.S.E., Regius Professor of Clinical Surgery, University of Edinburgh.

The pathology of the condition called by that wise old surgeon, Hey, of Leeds, "internal derangement of the knee-joint;" by Sir Astley Cooper, "partial luxation of the thigh-bone from the semilunar cartilages," and which is now by some authors termed dislocation or displacement of the semilunar cartilages, has not yet been thoroughly worked out, as few opportunities occur for the dissection of a joint so affected. It is, however, a clinical fact that one of the semilunar cartilages, usually the internal one, does occasionally become loosened from its attachments; and, in consequence, this body is liable to be displaced either forwards or backwards, and so to interfere with the proper movements of the knee-joint.

Two classes of this displacement are met with; one in which the condition takes place suddenly, as a result of a twist or wrench of the knee; and the other in which the displacement is not so sudden, but appears to depend upon a gradual stretching of the attachments of the cartilage, owing to some effusion into the joints, or owing to some continued strain upon the joint, as is illustrated in connection with certain occupations.

When the displacement has once occurred in either case, it is liable to occur again; but from my experience I judge that in cases, the result of a sudden rupture of the ligamentous attachments, which are promptly and carefully treated, the displacement is less likely to recur than in the more chronic ones.

If the condition be not permanently relieved, the displacement of the cartilage takes place more or less frequently in different cases; and sometimes in connection with the slightest movements of the joint.

The symptoms of this accident, as is well known, also vary in degree in different cases. The movements of the joints may be merely stiffened in one direction, or the joint itself may be firmly locked, and remain so until manipulation returns the displaced cartilage. Two patients have come to me from considerable distances suffering from this condition, and in both the knee-joint had been firmly locked in a fixed position for many hours. Manipulation easily replaced the cartilage, and the movements of the joint were at once re-established.

In all cases of this affection some effusion into the joint follows the displacement.

The ordinary treatment of a displaced semilunar cartilage is to reduce it by flexion, extension and manipulation; to apply a splint or elastic bandage, in order to keep the joint at rest and prevent the displacement from recurring; and, if effusion be present, to employ the usual remedies to promote its absorption. When the accident is recent, I would strongly urge the importance of keeping the affected joint absolutely at rest for two or three weeks, so as to promote the union of the ruptured attachments.

This affection may become so troublesome, owing to the constant recurrence of the displacement, that a patient's occupation and comfort are seriously interfered with; and I relate the following example of such a condition in order to illustrate a new method of procedure which I successfully adopted in connection with it. The excellent result obtained in this case encourages me to express the opinion that this, or some similar proceeding, may now become an established means of treatment, when the more simple methods fail to give relief, and to obtain for the patient an useful limb.

*Case.*—Thomas M., aged 30, miner, was sent to me from the north of England, on November 1st, 1883, with the following history: About ten months before his admission he was working in a kneeling position, when he felt something give way in his right knee. He suffered sharp pain, but continued at his work for a few hours. Great swelling of the joint followed, and the pain became much aggravated, so that he could not return to his work, and he had not since worked at his occupation. The condition was treated by rest, blistering, the application of iodine and various liniments, with the result of reducing the swelling; but pain still continued, and the movements of the joint were interfered with by something "slipping" in the knee.

On admission, the joint was slightly swollen, and there was a small amount of effusion into its cavity. The patient complained of acute pain in certain movements of the joint, which frequently became locked in the flexed position. He was able, by a little manipulation, to unlock the joint, but the frequency of this symptom made him quite unfit to follow his employment as a miner. On careful examination of the joint, there was a well-marked hollow over the anterior border and position of the internal semilunar cartilage. This hollow was most marked when the knee was flexed. Having decided that the case was one of displaced semilunar cartilage, and one not likely to be cured by any ordinary treatment, I, on November 16th, performed this operation. An incision was made along the upper and inner border of the tibia, parallel with the anterior margin of the internal semilunar cartilage; and, the few superficial vessels having been secured, the joint was opened. It was then seen that this semilunar cartilage was completely separated from its anterior attachments, and was displaced backwards about half an inch. The anterior edge of this cartilage was now seized by a pair of artery catch forceps, and it was drawn forwards into its natural position, and held there until three stitches of chromic catgut were passed through it and through the fascia and periosteum covering the margin of the tibia. The forceps were then withdrawn, the cartilage remaining securely stitched in position. The wound in the synovial membrane and soft textures having been closed with catgut stitches, a splint and plaster-of-Paris bandage were applied, so as to keep the joint at rest. The progress of the patient, after the operation, was perfect, the temperature never rising above 99° F. Seven weeks after the operation, the splint and bandages were removed, and gentle movements of the joint practiced.

On January 25th, 1884, the patient was dismissed cured, the movements of the joint being good, and the limb steadily gaining strength. In April of the same year, the patient returned to show the result. He was then seen and examined by many of our distinguished guests at the tercentenary, who all expressed the opinion that the result was everything that could be desired. He had perfect movement in the joint, and had never had the slightest stiffness or locking of the joint since he commenced to move about after the operation.—*British Medical Journal.*

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# VALVULAR DISEASE OF THE HEART, ACCOMPANIED BY RHEUMATIC SUBCUTANEOUS NODULES.

Reported from Salford Royal Hospital, under the care of Dr. EDGE.

A boy, aged 14, was admitted on October 23d, 1883. He had had an attack of rheumatic fever about a year previously, from which he was considered to have made a good recovery. For six weeks before admission, he had been complaining of weakness and breathlessness; and, when first seen, he presented the usual symptoms of insufficiency of the aortic valves, there being a double basic murmur, enlargement of the heart, and a perfectly typical pulse. He improved slowly, and about the beginning of November was allowed to sit up. He had no symptoms of rheumatism until November 17th, when he complained of pain in the metacarpo-phalangeal joints, which were found somewhat swollen.

On November 19th the swelling had disappeared; but the knuckles presented small nodules, which seemed to be attached to the extensor tendons; they were (like all the others which will be mentioned hereafter) free from pain and tenderness, and movable, not being attached to either skin or bone. All the metacarpo-phalangeal joints of the left hand presented these nodules, except that of the thumb; but, on the right hand, the corresponding joint of the second finger only was affected. The palms of both hands were noticed to be constantly sweating.

On November 23d the only nodules observable on the left hand were on the second and third fingers, while an additional one was found on the forefinger of the rfght hand.

On November 30th the only nodules remaining were those situated on the second fingers of both hands; but a fresh one began to appear on the extensor tendon of the left great toe.

On December 10th the nodules on the hands still persisted, and there were two new ones on the extensor tendon of the right great toe, and one on the second toe of each foot.

On December 20th all these nodules had disappeared, with the exception of one on the right great toe, and this soon disappeared also.

There were no fresh manifestations until January 9th, 1884, when the hands began to sweat again; and, on examination, nodules were found on the extensor tendons on the dorsal surface of both hands.

On January 11th a nodule was observed above each wrist, situated on a flexor tendon, and one also just above the styloid process of the left ulna. All the nodules which have been hitherto mentioned were about the size of small peas, and they had almost disappeared on January 22d, when a fresh crop was noticed on the lower limbs, affecting principally the knees, but one was situated on the dorsum of the right foot. On the right knee there were two nodules situated immediately above the upper edge of the patella, and two over the external condyle, one of which was of the size of a large hazelnut. On the left knee there were three nodules at the upper edge of the patella, one on the external condyle, and one on the internal condyle. The soles of the feet, as well as the palms of the hands, were now noticed to sweat profusely.

On January 25th two nodules were observed on the dorsum of the left foot, and the upper limbs again became conspicuously affected. The right elbow presented three, situated over the external condyle, and one over the olecranon; while, on the left side, one was situated over the external condyle, and two over the olecranon.

On January 26th nodules appeared on the right forearm, just above the wrist; and, on January 28th, a row of three nodules, each about the size of a large pin's head, was noticed above the left wrist. There was also a reappearance of the one above the lower extremity of the left ulna. Those on the left foot were larger, and an additional one was noticed above the external malleolus.

On February 8th those above the left wrist and those on the feet had disappeared, and those about the elbows and knees were all smaller. On February 19th a fresh nodule appeared on the knuckle of the left forefinger. On February 22d the nodules above the patellæ were not discoverable; and, on February 26th, the boy was made an out-patient.

On February 29th the nodule above the right wrist persisted. The elbows were in the same condition, except that the nodules were all smaller, and that the one on the left external condyle had disappeared. The right knee presented one over the internal condyle, and two over the external condyle; while on the left knee there was one above the patella, two over the external, and one over the internal condyle.

On April 18th the large nodule over the right external condyle was reduced to the size of a pea, and there was still a nodule over the left internal condyle. The only other remaining nodule was very small, and was situated over the left olecranon.

On May 9th there was no change, except that the last-mentioned nodule had disappeared. There is little to be said about the temperature in this case; there was slight pyrexia, and the temperature was usually observed to be rather higher than usual before a fresh crop of nodules made its appearance.

Remarks by Dr. Edge.—This case seems worthy of being placed on record, as it is a typical example of the affection to which Drs. Barlow and Warner called attention in 1881. The symmetry of the nodules was very marked in this case, but this has not always been noticed. The case illustrates how much the nodules vary as regards duration, some lasting a few hours only, while others persist for several months. They are usually found in young subjects, from four to eighteen years old, and are then nearly always associated with rheumatism and heart disease, the latter being frequently of a progressive character. They vary in number from one to fifty, about forty-four having been noticed in this patient. These nodules often appear in successive crops, and, as illustrated in the case in point, sometimes return after a temporary disappearance. They are always more or less movable, being attached to tendons or deep fascia; they never become bony, nor do they suppurate or become infiltrated with urate of soda. They are found to be composed of fibrous tissues, and are very vascular. Dr. Barlow considers that these nodules are analagous to the inflammatory exudation which forms the basis of a vegetation on a cardiac valve; and it is interesting to note that Dr. Angel Money has found, after death, similar nodules in the substance of the heart, in a case in which subcutaneous nodules existed during life. Observers vary as regards the frequency of this affection; for, while the late Dr. Mahomed saw only two cases in two years, Dr. Angel Money finds them in at least 50 per cent. of his cases of rheumatism in children.

Similar nodes have been observed and described by Dr. Dyce Duckworth, Dr. Stephen Mackenzie and Dr. Kingston Fowler, as occurring in adults; but they are probably not identical with those referred to by Drs. Barlow and Warner. Dr. Duckworth is of opinion that there are several varieties of this affection; at any rate, the cases described in adults differ very considerably from such an one as has just been reported. The nodes which occur in adults seem to be not necessarily associated with rheumatism or heart disease (in Dr. Mackenzie's case the affection occurred in a patient who was the subject of syphilis); they last for a longer period; they are frequently painful on pressure; they may be much larger than those found in children, reaching, as in Dr. Fowler's case, the size of an olive, a Tangerine orange and a walnut, respectively; and, lastly, according to Dr. Duckworth, they may be adherent to the skin and periosteum. In all these respects these adult cases differ in a marked manner from those described by Drs. Barlow and Warner, and from the one which is now reported, so that at least two varieties of this affection may be distinguished.—*British Medical Journal.*

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PREVENTION OF CHRYSAROBIN STAINING.—The staining of the clothes caused by chrysarobin may be prevented by making the latter into a dough with water, and after applying to the diseased spot, covering it with a layer of collodin.—*Birmingham Medical Review.*

# SURGICAL TREATMENT OF ABDOMINAL ANEURYSM.

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Amongst the numerous triumphs of surgical skill and enterprise in the treatment of affections of the abdominal organs, which recent years have put on record, few have been more striking than the operations for stricture of the pylorus and œsophagus by Professor Loreta, of Bologna, which were recorded in our *Journal* for February 21st. The same surgeon has now published a case of abdominal aneurysm, which has a double interest for English surgeons, both as an instance of apparent cure in a disease which has hitherto resisted all methods of treatment, and as the realization of an idea originally promulgated by that excellent surgeon and excellent man—the late Mr. C. H. Moore, of the Middlesex Hospital. Our space will only allow a very brief summary of the original report, which will be found in the *Memoirs* of the Royal Academy of the Sciences of the Institute of Bologna, for February 8th, 1885, ser. iv, vol. 6, and which will well repay a careful perusal. The patient was a sailor, 30 years old, who had always enjoyed good health, except for an attack of primary and secondary syphilis five years before. In the month of February, 1883, while making violent efforts in furling a sail, he felt something give way in the belly. This was followed by excruciating pains in the back, and in the iliac and hypochondriac regions, gradually increasing in intensity, till at last, in the course of a year, he was wholly laid aside. But it was not till October, 1884, that a pulsating tumor was found in the left hypochondrium. When admitted into hospital in December, 1884, there was a large pulsating tumor in the epigastrium and left hypochondrium, with a loud *bruit*, having its maximum of intensity in the epigastrium. The pulse was hardly perceptible in the femoral arteries, and ceased altogether when the tumor was compressed; the patient suffered grievously from neuralgic pains down the limbs, which were feeble and cold, and from gurgling noise in the viscera compressed by the aneurysm.

Regarding this as a traumatic sacciform aneurysm, probably springing by a narrowish neck from the aorta or one of its large branches, Signor Loreta, determined to attempt to separate the sac from its connections, and, if possible, close its opening out of the artery by suture or ligature; or to empty the sac, invert it, and sew it up; and, if neither of these proceedings should prove possible, to stuff the cavity with wire. He chose wire in preference to horsehair, silk, or other substances, which have been suggested, for reasons which he states, and which seem satisfactory. The use of a coagulating injection was also contemplated, but, as the sequel showed, would have been impracticable.

The operation was performed on December 19th, through an incision reaching from the end of the sternum (that is, the root, not the tip, of the ensiform cartilage) to the umbilicus. It was made so high, in order that the hand might be freely introduced to compress the sac if it should give way when the pressure of the abdominal wall was taken off. Numerous superficial adhesions were found, and carefully separated; and then more deeply situated adhesions came into view, which united the sac to the stomach, omentum, transverse colon, and liver. Most of these were divided, but it was found impossible to dissect the sac from the spleen, diaphragm and cardiac end of the stomach. Hence it was impossible to trace the aneurysm down to its mouth, nor could it be compressed and emptied. It remained uncertain, therefore, whether the abdominal aorta itself, or one of its great branches, was the vessel involved, though the former supposition seemed the more probable. The tumor, which was now fully exposed on its right side, was punctured with a fine trocar, and silvered copper wire was passed in, in the direction of the current of blood, that is, from above, on the right, downwards, and to the left. As soon as the wire experienced resistance, the canula was removed, the end of the wire pushed in with a needle, and the puncture, together with the surrounding tissues, lightly cauterized with pure carbolic acid. About two mètres (that is, a little over two yards) of wire had been introduced. The consecutive symptoms are fully and accurately detailed in the pamphlet above referred to. They were those of rapid, progressive, and, it is hoped, permanent recovery. The man passed a good night after the operation, a thing which he had not done for two months, and which he attributed to the diminished pulsation of the aneurysm; and the pulse in the femoral arteries, which had been almost suppressed, reappeared. The *bruit* also diminished in intensity, and had entirely disappeared on January 10th; and in a month from the operation the tumor seemed quite consolidated, and had diminished to a quarter of its former size. It had no pulsation beyond the movement communicated to it by the artery on which it lay, and did not impinge on the parietes of either the thorax or the abdomen. The hypochondrium, which had been considerably prominent, had resumed its normal shape. The patient left his bed on February 2d, and after remaining under observation for three weeks, was discharged as cured. The whole period which had elapsed from the date of the operation to the publication of the paper was seventy days.

Such is the outline of this remarkable case; a case which, as far as our reading extends, may be truly called unique. No aneurysm in this situation has ever before, we believe, been submitted to deliberate surgical operation, nor are we aware that any aneurysm so situated has been cured by rest and medicine. In fact, its position, so closely adjacent to the stomach, liver and colon, would render it peculiarly ill-situated for Tufnell's treatment. It need hardly be said that proximal pressure would have been impossible, distal pressure in the highest degree uncertain, and direct pressure so extremely dangerous, that no prudent surgeon would attempt it. In our own country, we believe, an attempt was made by Mr. C. Heath (and we cannot name this enterprising and distinguished surgeon without expressing our sincere pleasure at his convalescence, and the hope of his speedy restoration to activity), to submit an abdominal aneurysm to direct surgical treatment by laparotomy; but it was found necessary to abandon the attempt.

Moore's case (*Medico-Chirurgical Transactions*, vol. xlvii) involved no exposure of the sac, as the aneurysm projected against the walls of the thorax. But the event of this case was not such as to recommend the method, which is dismissed in this brief fashion in one of the most recent works on aneurysm: "Doubtless the substance used was too irritating; and the use of wire is now abandoned." (Holmes's *System of Surgery*, third edition, vol. iii, page 78.) And there can be no doubt, both from Mr. Moore's account of the case, and from the preparation which is preserved in the Museum of the Middlesex Hospital, that the wire did set up fatal irritation. It is probable, however, that the quantity introduced (twenty-six yards) was too large; and it appears certain that the disease had advanced to an extent which rendered it practically incurable. Moore anticipated this criticism, and he suggested "that it may be possible to effect an equal consolidation with a less quantity of wire. * * * Should this method be adopted, it would be important so to manipulate the wire as to insure its coiling in the cavity, and not merely lying in circles against the wall." (*Op. cit.*, page 168.) This suggestion Signor Loreta's operation kept in view. It is also interesting to see that the idea of applying his method to abdominal aneurysm had occurred to our countryman, though it is not surprising, considering that the case happened twenty-one years ago, that he dismissed the idea as impracticable. Now that the position of the aneurysm is no longer regarded as inaccessible to operation, we may be sure that surgeons, stimulated by Signor Loreta's success, will give an ample trial to the introduction of foreign bodies into the sac, in the treatment of these otherwise hopeles cases; and we may hope to hear of fresh advances in surgery. Our only fear is that operators may be too enterprising, and may run risks which the stage of the disease, and the condition of the patient, do not justify. It will be noticed that the case before us presented many features which are wanting in too many cases of internal aneurysm: a young, and otherwise healthy, patient; an arterial system apparently free from any general degeneration; a firm complete sac; and a manageable size of tumor. Even with all this, the risks and difficulties of the operation were evidently enormous; and to have met them successfully, reflects honor on Italian surgery in general, and especially on the distinguished Professor of Bologna.—*British Medical Journal.*

BELLAMY ON CUCAIN IN CHRONIC CYSTITIS AND IRRITABLE BLADDER.—In the *Lancet*, February, 1888, p. 315, Mr. E. Bellamy writes that he has used cucain with much success in cases of irritable bladder with spasmodic contraction of the sphincter vesicæ. The author has had made some small bougies of gelatine, about three inches long, charged with one quarter of a grain of hydrochlorate of cucain. These have been pushed down the urethra to the irritable neck of the bladder by an ordinary elastic catheter; the result being that the patient in the first instance almost immediately expressed the opinion that he was "going to get control" over his bladder, and secondly, that the surgeon was enabled to make a most thorough examination, without the patient suffering any pain whatever.—*British Medical Journal.*

# REVIEWS AND BOOK NOTICES.

THE CURABILITY AND TREATMENT OF PULMONARY PHTHISIS. By S. JACCOUD, Professor of Medical Pathology to the Faculty of Paris, etc. Translated and Edited by MONTAGU LUBBOCK, M.D., M.R.C.P. New York: D. Appleton & Co, 1, 3 & 5 Bond Street, Pp. 407.

The title of this volume is very gratifying. That one man in the profession can say so boldly and conspicuously as on his title page that there is a hope for consumptives, and that the volume is from M. Jaccoud, the eminent Professor of the Ecole de Médecine, recognized on the Continent as one of the best authorities on pulmony phthisis, carries with it a great deal of weight.

When this book was written, Koch had not discovered the bacillus of phthisis, but the author at that time was of the opinion that there was an infective agent which passed was capable of transmitting disease from person to person, but that auto-infection was possible, the virus being disseminated through the body from pre-existing caseous or tuberculous deposits which contained it. Although he knew nothing of the size and shape of the agent causing phthisis, he believed that the chief factor in the liability to tuberculosis, and the actual production of tubercle, whether it be an exudation or cellular formation, was regarded as due to an irritative process termed "phymatogenous (tubercle-producing) irritation," or to actual inflammation of the lung· Though regarding every form of phthisis as curable, he looked upon the so-called inflammatory forms as specially so by means of fibrous transformation of the tubercle, the result to be specially sought in all cases of this disease. To an author holding such a theory, in the main, one will probably need to endorse the Koch theory, to have faith in any practice which promises a cure.

M. Jaccoud in turn discusses climatic, hydrotherapeutic, aërotherapeutic treatment, and treatment by inhalation of benzoate of soda and salicylic acid used as a febrifuge.

Almost the first ray of hope ever held out to the consumptive was in the clinical lectures of Dr. J. Hughes Bennett and Dr. Charles J. B. Williams. Up to that time, little more than a quarter of a century ago, there was an all-but universal opinion that consumption was necessarily fatal, and now comes a book laden with good promise, and in accord with the latest discoveries as to the etiology of phthisis. There is no doubt that this disease is the great scourge of the civilized world, and every book that can stimulate the profession to renewed efforts in grappling with it, should be heartily welcomed, as we do this.

We desire to quote the summary of M. Jaccoud's experience with benzoate of sodium by inhalation:

"To sum up," he says, "the treatment is far from being always accepted, and when employed is undoubtedly a cause of fatigue. Nor, according to my experience, do the results obtained compensate for the difficulties encountered. Its utility in cleansing the bronchio-pulmonary surfaces appears to be certain, but it seems also that this result may be more easily obtained by means of treatment by inhalation, which is less prolonged.

Doubtless the circulation of this book will not be limited to the profession, but will be read with interest and profit by the thousands of consumptives and their friends.

### SPECIAL REPORT OF THE SUPERINTENDENT OF THE NORTH CAROLINA INSANE ASYLUM, April 15th, 1885.

Owing to the great reduction by the last Legislature of the appropriation for the Raleigh Asylum for the Insane, the Superintendent has made this special report, to show the inadequacy of the means furnished, and the consequent great injustice to the helpless insane. It needs only to be said that, by the showing of Dr. Grissom, the average cost of food per diem for 1884 was 13 1-5 cents per day, and that the present appropriation reduces it to 9 9-10 cents a day, or 3 3-10 cents a meal. The former rate, 4 2-5 cents per meal, Dr. Grissom says, with warmth, is "a sum less than the smallest amount charged in the cheapest possible soup-houses established for the relief of out-door paupers, or for the aid of the destitute among the working population in times of scarcity."

We ended the perusal of Dr. Grissom's report with the feeling that surely the people of North Carolina do not know how terribly our Legislature has neglected its duty in not making the proper provision for the insane.

What is the other side of this question? Will not the men who undertook the responsibility of reducing the per diem below the point which the Superintendent declares to be one of stringency, come before the public with their statement in the public press? The people have a right to know what principles of economy actuated them, and also to decide whether these principles are really tenable. It is too late now to remedy the wrongs and relieve the burden of the Superintendent, Board of Directors and patients for two years, but it is in plenty of time to submit to the people all that is to be said, and, with the subject fairly stated, be prepared to take steps for the prevention of this blunder at the meeting of the Assembly. As by our law none of the present legislative committees will be in existence when the appropriation for the next two years is to be made, and there is no way to cause a legal succession of experience to be transmitted from one Legislature to another, the press must take the matter in hand and use its influence to get better men and better laws.

MUSHROOMS OF AMERICA, EDIBLE AND POISONOUS. Edited by JULIUS A. PALMER, Jr. Published by L. Prang & Co., Boston.

Among the agreeable surprises of the year is the issue of a chart of edible and poisonous mushrooms, under the editorial management of Mr. Julius A. Palmer, Jr., of Boston, and from the press of Messrs. L. Prang & Co., the well-known publishers of the "*Flowers and Ferns of the United States.*" Mr. Palmer has investigated most thoroughly and satisfactorily the food qualities of mushrooms, for ten years past, and having mastered the practical difficulties which lie in the way of mycophagy, he has embodied them all in a very succinct and untechnical description, enabling intelligent persons, though unacquainted with the botany of these plants, to avoid the danger of being poisoned, and enabling them to make a choice of them for food. The illustrations are remarkably fine. It needs but a casual comparison to place them above those in Cordier, on the one hand, and the chart of Worthington Smith on the other. The former, although exquisitely rendered, are too highly colored, and the latter are quite inferior. One of the above is from the French, the other from the English, press..

This is the first attempt in America to popularize the fungi, or rather we should say that the Messrs. Prang are the first publishers to issue an illustrated guide to the use of mushrooms. The late Dr. M. A. Curtis left in manuscript a work on "Edible Fungi," illustrated with 40 colored species, drawn by the Rev. Charles J. Curtis, but this book has never found a publisher. Mr. Palmer's work goes beyond that of Dr. Curtis, in that it describes and figures four of the poisonous or suspicious species.

It is the intention of the publishers, should these charts receive a welcome from the public, to furnish a supplement from time to time, until their illustrations comprise nearly or quite all of the mushrooms of America.

We cannot conceive how a work could more admirably fulfil its design than this, and it cannot fail of success. To our readers in the middle and western counties where mushrooms abound and are more in use as articles of food, we recommend this chart as an aid in extending gastronomic ventures, and also to enable them to diagnosticate an unfortunate venture by their patients.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1884. Volume I. Edited for the Association by AUSTIN FLINT, Jr., M.D. New York: D. Appleton & Co., 1885. Pp. 654.

This volume has somewhat the appearance of McMaster's History, and is a pleasant departure from the conventional style of the elder society of the same State. It is the scientific and literary first-fruits of the division of the profession in New York, and as such will be read with critical strictness by many into whose hands it will pass. It was expected that the stimulus of rivalry would bring out the best work of the profession, and the severest critics will easily concede that such has been the result.

Some of the papers in this volume have appeared in full in the leading journals of New York, and are well known to the reader. The papers cover a broad range of topics, and are from the pens of such men as Dr. Joseph C. Hutchison, of Brooklyn; Dr. Gouley, of New York; Dr. E. R. Squibb, of Brooklyn; Dr. Rochester, of Erie county; Dr. T. Gaillard Thomas, of New York; Dr. Nathan Bozeman, of New York; Dr. C. S. Bull, of New York; Dr. John P. Gray, of Oneida county; Dr. Stephen Smith, of New York; Dr. Wm. T. Lusk, of New York; Dr. E. G. Janeway, of New York, and many others of national reputation.

We notice that Dr. Bontecou, of Rensallaer county, reports one of the first cases of resection of the humerus done in the Northern Army, which reminds us of the first case similar to this done in the Southern Army, by Dr. Otis F. Manson, of Richmond, in the person of Wm. H. Ricketts, reported in the first volume of the *Confederate States Medical and Surgical Journal.*

The volume closes with an alphabetical list of members to the number of 514.

After all, it may not have been such a bad day's work when the profession of New York was divided.

MINOR SURGICAL GYNECOLOGY: A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynecological Practice, Including General Rules for Gynecological Operations and the Operations for Lacerated Cervix and Perineum, and Prolapsus of the Uterus and Vagnia, for the Use of the Advanced Student and General Practitioner. By PAUL F. MUNDÉ, M.D., etc., etc. Second Edition. Revised and Enlarged. Three Hundred and Twenty-one Illustrations. New York: William Wood & Co., 56 & 58 La Fayette Place, 1885. Pp. 552.

The first edition of this volume was one of the regular edition of Wood's Library in 1880. As was predicted for it then, it has achieved great success, encouraging its author to enlarge and revise it. There was never a truer saying than the sentence quoted by Dr. Mundé in his preface to the first edition, that "Success in the treatment of diseases of women lies wholly in attention to minute details." This was the text which inspired the treatment of the subject, and to it the author has adhered throughout.

The abundant experience of the author as the editor of the *American Journal of Obstetrics and Gynecology,* put him in a position to know the wants of the general profession; and while his book is not intended as a rival to the tex-books of Thomas and Emmett, it will be consulted far more frequently by the country doctor, who has so often to work out diagnoses and treatment unaided by special assistance, than the above voluminous works.

This volume is now sold separately from Wood's Library.

CLINICAL STUDIES OF DISEASES OF THE EYE: Including those of the Conjunctiva, Cornea, Sclerotic, Iris and Ciliary Body. By Dr. FERDINAND RITTER VON ARLT, Professor of Ophthalmology in Vienna. Translated by LYMAN WARE, M.D. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1885. Pp. 325. Price $2.50.

The translator has done a good service to the American profession by presenting an English version of the lectures of Professor von Arlt, already well known to specialists who read German. The volume was intended to give to physicians engaged in general practice a book of reference which they could consult regarding the common and most frequent diseases of the eye.

The book is divided into sections on Diseases of the Conjunctiva, of the Cornea, of the Sclerotic and of Iris and Ciliary Body. The completion of the lectures, the author tells us, depends upon the favor with which the present volume is received.

The translator has interpolated very few individual opinions, but has not failed to mention, though, indeed, very slightly, the value of hydrochlorate of cocaine as a local anesthetic.

While not as useful to the general practitioner as the hand-books of Nettleship and Swanzy, it is a timely addition to our literature from the pen of an author to whom the profession owes a great deal.

MODERN THERAPEUTICS OF THE DISEASES OF CHILDREN, WITH OBSERVATIONS ON THE HYGIENE OF INFANCY. By JOSEPH F. EDWARDS, M.D. Philadelphia: D. G. Brinton, 115 South Seventh Street, 1885. Pp. 346.

This volume is similar in execution to several works by the same publishers, viz: a retrospect of the therapeutics of several branches of medicine, arranged for ready consultation by the reader. The diseases of children have within a few years received a large share of professional attention, and several excellent works have been issued, some of them having been reviewed in the JOURNAL. This differs from them all in being a mere compilation of treatment from the writings of a very few authors, or, rather, a very few authors have been quoted under nearly every important disease. It would not be a damaging criticism to say that under many important heads, such as that of diphtheria, there is nothing new, because new remedies in diphtheria are little better than old ones, but the editor has failed to give a digest of the best line of treatment under the heading especially mentioned. Even if he had strung pearls of treatment together with no other editorial help than that he offers, we doubt if the reader for whom such books are intended would be any the better practitioner. But such books are sought after, and some one must edit and publish them, but to the readers of such volumes we must volunteer the advice that they had better go into the sick chamber armed with more substantial weapons.

# EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## ANOTHER PHASE OF THE QUESTION, WHO IS ENTITLED TO THE PRIVILEGE TO PRACTICE MEDICINE?

Some of the promoters of the objects of our license law in the last Legislature, in endeavoring to substantiate the color of title to practice medicine in the State, caused to be enacted a proviso which really defeats their intention. It came about in this way: Thinking that the obstacle to the privilege of practice on the part of their medical friends was the failure to obtain license, and that a diploma ought to be accounted sufficient, so far as the practitioners of a date previous to 1880 were concerned, they got a proviso enacted, the terms of which exclude all physicians from the penalties of the law "who have a diploma from a regular medical college prior to January 1st, 1880."

Upon close examination it turns out that this clause places, by implication, a large number of physicians who have been practising for years previous to 1859, without a diploma, under the minor penalty of the law, viz: debarring them from collecting their fees by law, and also of becoming members of the County Boards of Health. At least it appears so to the present writer, and if it turns out that this is the construction which the Attorney General places upon it, the Medical Society has an important duty to do.

At no time has the Medical Society of North Carolina demanded more of the gentlemen proposing to become members of that body than the law of the State imposed. In fact, it was not until the Wilmington meeting (1880) that the Constitution was so altered as to make the legal qualifications imposed by the State a precedent test of membership. The strictest construction yet put upon the requirements of membership were that the applicant should be of good moral character, should have been a regular practitioner in good standing before April, 1859 (his credentials being approved by the proper committee), or should be a licentiate of the Board of Examiners. It only remained, then, to receive a two-thirds vote of those present. We believe we have stated the position correctly, and if so, then we desire to ask that the Society, at the approaching meeting in Durham, will reiterate this position.

We are sufficiently informed about the condition of the medical profession for the last fifty years to convince us that, as a Society, we do not desire to see imposed upon them any restrictions which go further than the law of 1859, and we ought to be willing to make the declaration that those physicians who are in good standing, and practitioners before 1859, are welcome to take part with us in building up the interests of the whole profession. There is no doubt that the Medical Society is in accord with the spirit of the fundamental law, which forbids the application of a retrospective penalty, and no construction of the law should be allowed to place us in any other position.

It is well to be plain in this matter. If we do not at the first opportunity reiterate our adhesion to the precedent which we as a Society have established, we may look for an opposition in the next Legislature strong enough to jeopardize the whole law.

# OBSCENE LITERATURE IN THE DAILY AND WEEKLY NEWSPAPERS.

If one will not shut his eyes to the fact, and overcome the force of habit of skipping advertisements in our daily and weekly newspapers, he will be surprised and shocked at the frequent appearance of obscene and filthy suggestions of treatment offered by the swarm of quacks whose whole living is the attention they can attract among the young men of our land.

It would be hardly credible if the number of young persons who respond to such advertisements could be made public. The cunningly worded paragraph frequently alarms some guileless young man, who for the first time is brought under the conviction that he is a wreck of the worst sort, sexually and morally, and that here is a public benefactor of larger experience than his doctor at home, and who, best of all, he does not have to meet face to face and make known his terrible sin, but to whom he may lay open the rankling secret of his heart, and get advice under the cover of the mail.

This class of quacks have no other stock in trade than a skill in picturing the symptoms which most every healthy young man must experience in some degree or other, and setting forth how surely these symptoms are leading them to destruction if they are not relieved. Their next move is to place these advertisements in such papers as will receive them under a contract system which affords no very broad margin of profit to them. Many of them are beardless young men, who have no knowledge of medicine, but have received some sort of education in this villainous game in the offices of other "advertising specialists," as they call themselves. Others are broken-down medical men, who, by a career of dissipation, have lost the confidence of their former patrons.

What we desired to speak more particularly about, though, is the frequency of obscene advertisements in our papers. One paper, which has greeted the eyes of thousands of readers for several months, gives an illustration of an instrument to restore sexual vigor. It consists of a highly pictorial apparatus, which is intended to buckle around the pelvis, to which is attached a perineal band and apparently a scrotal bag, the whole machinery darting flashes of electricity. By this means impotency is to be cured, and the method is explained in nasty detail. The columns of the same papers were eloquent on the subject of the statutory limitation of obscene literature during the session of our last Legislature, but have not the independence to do as medical journals do—scorn the admission of such matter to their advertising columns. Any amount of moral dissertation on obscenity in editorial columns cannot offset the corrupting influences which these villainous advertisements are secretly working among our girls and boys.

VACCINIA AND VARIOLA AT THE SAME TIME IN THE SAME INDIVIDUAL.—Charles E. Rowling, Hon. Medical Officer Paramatta Hospital, New South Wales, contributes a very interesting note to the Australasian *Medical Gazette* on the above subject. A man aged 27, fearing that he might contract small-pox, asked advice respecting vaccination. He was immediately vaccinated in four places on each arm. This was successful; on the second day, however, forty-three umbilicated pustules appeared on different parts of his body. This disease ran a perfectly normal, but very mild course. Everything at first pointed to a decidedly severe attack, and a very mild one ensued. On the eighth day some perfectly clear lymph was taken from the Jennerian vesicles and a healthy child, eight months old, was vaccinated. Vaccinia and vaccinia only, was developed and ran a perfectly normal course. Thirteen others were then vaccinated, eleven of which were successful. Is any better proof required of the well-known, but occasionally contradicted fact, that vaccination carefully performed will result in nothing but vaccinia? Now, did this case show in a wonderful manner the protective power of vaccinia, or did it not?—*St. Louis Medical and Surgical Journal.*

# CURRENT LITERATURE.

## THE ACTION OF PARALDEHYDE.

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As a therapeutic agent the special value of paraldehyde resides in its power of procuring sleep in cases requiring a hypnotic, but in which chloral and opium are contraindicated. As compared with the first-named drug it has appeared less potent. It acts quite as quickly as chloral, but frequently fails to produce its expected results, especially if pain be present or the patient be in any way disturbed. Its use as a soporific is indicated:

1. When chloral seems called for, but the heart's action is so weak or irregular that danger may arise from any depressing cardiac influence. In the enlarged flabby or fatty heart chloral is a dangerous remedy, but paraldehyde may be given without fear, and where there are anginal symptoms, perhaps with advantage, because of its tendency to reduce arterial tension. In delirium tremens chloral is doubtless the best sedative which we can employ, and yet at times the weakness of the circulation indicates that its free administration is not quite devoid of danger, and the use of large doses of bromide of potassium is likewise objectionable. Now paraldehyde may be substituted for, or combined with, chloral in the treatment of this ailment with great advantage.

It seems especially useful in subduing the attacks of excitement to which those suffering from progressive paralysis are liable, and also in hysterical excitement; but it has also proved of service in acute mania and in almost all those conditions calling for the use of sedatives. There is no evidence that it is of greater value than chloral in overcoming the restlessness of insomnia, which has so often to be treated in asylum practice; but it certainly may be substituted for chloral with advantage wherever there is a weak circulation as well as an excited brain. Langreuter speaks less favorably of its use than the two other observers, and considers that it possesses only one-third the efficacy of chloral; but in eighty-two per cent. of the 210 instances in which he gave paraldehyde it produced the desired effect. In fever where the heart's action is weak paraldehyde may perhaps at times be substituted for chloral or opium with advantage; but in the only case in which Dr. Leech tried it, the result obtained was not satisfactory; the patient became slightly flushed and did not sleep.

2. When grave disturbance of the respiratory functions, from bronchitis or other causes, is accompanied by great restlessness and insomnia, sedatives of all kinds are looked upon with suspicion, and yet it not infrequently happens that it is necessary to induce sleep. Opium is out of the question, and bromide of potassium is usually ineffectual. Chloral may be given more advantageously, but its exhibition is accompanied with considerable risk.

3. When the administration of chloral is followed by unpleasant symptoms, paraldehyde may often be substituted with advantage for it. Sometimes the patient who has taken chloral suffers, on waking, from severe headache, almost more painful than want of sleep itself; or nausea, or giddiness may follow. Slight discomforts do at times occur after paraldehyde. Headache, giddiness and nausea may be complained of, and in two hysterical cases Langreuter noted slight delirium on awaking from paraldehyde sleep; but, as a rule, discomforts are much less frequent and severe after paraldehyde than after chloral, and when the latter drug has caused ill after-effects Dr. Leech has given paraldehyde with good results.

4. When slight conditions of insomnia are present, paraldehyde has often an advantage over chloral or opium; for evils sometimes arise from commencing with the use of these two drugs, which prevent us resorting to them in all cases where a sedative seems desirable. In hysterical people especially, should the milder sedatives fail, we often elect to allow a patient to suffer from the discomfort of insomnia rather than take the responsibility of risking the development of a morbid craving for chloral or opium. Now, in such cases, we may give paraldehyde with every hope of success, and without fear.

As compared with opium, paraldehyde has a disadvantage which it shares with chloral. Its anodyne effects are feeble, hence it often fails conspicuously to relieve sleeplessness dependent on pain or cough. At times, indeed, it does act as an anodyne in neuralgia and other painful affections.

Whilst paraldehyde has certain advantages over other soporifics, it has some disadvantages. Its taste is objectionable—to some particularly so, and it sometimes causes an unpleasant taste in the mouth long after it has been taken. Then, too, if the stomach be at all irritable, it is apt to cause sickness, or even pain and vomiting, and not infrequently patients will decline a second dose on account of its taste and the nausea it causes. Others, however, prefer it to chloral in every respect. Its odor can be perceived in the breath for hours after it has been taken.

Notwithstanding these defects, however, paraldehyde will prove a useful addition to our therapeutic resources. If it be indiscriminately used instead of chloral, it will soon be cast aside, since it is the less powerful of the two; but if its employment be limited to the cases for which it is specially applicable, its value will soon become generally appreciated.

With regard to its administration, as it is a nauseous drug, it is desirable to mask its flavor as much as possible. For this purpose many formulæ have been suggested. It forms an emulsion with powdered acacia, and may then be mixed with syrup of almonds, so that an ounce will contain 40 ♏. Mixtures of paraldehyde with oil and alcohol have also been recommended, but Dr. Leech prefers the following form:

℞ Paraldehyde, ♏ L.
Syr. Aurantii, ʒ ii.
Aquam ad, ℥ i.
Fiat haustus.

Dr. Quinlan recommends the addition of spirit of chloroform to a similar but more dilute solution. Paraldehyde may be given in capsules. Taken a little while after food, these capsules burst in the stomach without producing more than a trifling sensation of warmth; but if the stomach be empty, the sensation of heat which they cause on breaking is somewhat unpleasant, though only of short duration.

If paraldehyde produces stomach discomforts, it may readily be administered by the rectum. Subcutaneous injections of the drug are not advisable, as they produce considerable pain.

As a rule, it is well to begin with a dose of fifty minims. Less than this may be effectual at times, but more is often required.—*Therapeu Gazette.*
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# COCAINE IN GENERAL PRACTICE.

That there is such a thing as fashion even in therapeutics can scarcely be questioned by those familiar with medical literature. New drugs and chemicals are being constantly discovered, and, after a more or less thorough experimental and clinical trial, are presented to the profession in rather eulogistic terms. But as the sphere of application of the new remedy enlarges, the appearance of undesirable, often positively objectionable features, previously unnoted, frequently leads to a reaction, the drug gradually loses its reputation and ultimately disappears from the field of practice. This fate, we can confidently assert, is not likely to be shared by cocaine, which, though possibly not sustaining its rapidly gained reputation to the alleged extent, seems nevertheless destined to secure a permanent place in therapeutics.

The readers of the *Therapeutic Gazette* having been sufficiently well informed of the excellent services cocaine is capable of rendering in ophthalmological surgery, we desire now to consider its thereapeutic worth in general practice, simply calling attention to the wide scope which experience has shown it to possess.

In cases of minor surgery involving the mucous membranes which are sufficiently painful to call for an analgesic, but do not warrant the induction of constitutional anæsthesia, cocaine fills up a long-felt gap. Its value is enhanced in case of a direct contra-indication of both ether and chloroform, as in heart disease or in patients of very tender age. Its action on the skin not denuded of the epidermis being of course but very slight, it has to be used hypodermically to obtain any decided effect, though when so employed a sufficient number of trials, both in private and in hospital practice, vouch for the promptness and constancy of the remedy. In a case of phlegmonous inflammation of the hand requiring several incisions, Dr. Burke found the subcutaneous injection of ten drops of a twenty per cent. solution of the hydrochlorate of cocaine to exempt the operation from any pain; Dr. Wilson also rendered the operation of extirpation of an adenoma perfectly painless by a previous hypodermic injection of cocaine (*N. Y. Med. Journal*, November 29, 1884, *N. Y. Med. Record*, November 22, 1884). So, too, Dr. Croston reports having removed an epithelioma of the cheek without causing more than slight pain after using three injections, consisting each of four drops of a four per cent. solution of the hydrochlorate of cocaine (*Boston Med. and Surg. Journal*, December 11, 1884). To determine the extent of surface rendered insensible by the subcutaneous use of cocaine, Drs. Hall and Halstead made several interesting experimental trials with the remedy, and found the zone of anæsthesia produced by a hypodermic injection to extend two to three inches from the point of injection. They also noted vertigo, nausea, cold sweats and dilatation of the pupils accompanying its exhibition, and justly concluded that cocaine exerted a toxic influence upon the central nervous system (*Deutsche Medizinal Zeitung*, No. 7, 1885).

In cases of dental surgery of the most varied description the drug has rapidly gained a high reputation. In extensive burns and scalds cocaine has no rival in almost instantaneously subduing the usually very intense pains. Dr. Adelbert Weiss, of Vienna, being called to attend a gentleman severely scalded in the face by an explosion, ordered, after temporary application of oiled rags and ice, the well-known mixture of aqua calcis and oleum lini, and at the same time a two per cent. solution of hydrochlorate of cocaine. The pains were so agonizing that convulsions were feared, since the pains could not be mitigated by the constantly renewed ice application. The very moment that the scalded parts, partly progressed to vesication, were touched by the brush dipped into the cocaine solution, the pains disappeared as if blown away, and did not return. (*Wiener Med. Wochenschrift*, January 3, 1885.)

Equally instantaneous is the relief which cocaine gives in hæmorrhoids in anal fissure, in fact, in all affections of the rectum and anus. Dr. Krause praises the beneficent services of the drug in the painful dysphagia of tubercular patients. (*Gazette Médicale de Paris*, January 31, 1885.)

In persistent vomiting of pregnancy the drug was successfully exhibited by Dr. Holz in ten-drop doses of a three per cent. solution, repeated three times at an interval of twenty-four hours, producing the entire cessation of this grave symptom.

In otology, cocaine seems to render no lesser service than in ophthalmology. The experiences of Jellinek, Schröter, Schnitzler and Störk regarding the indications for the use of cocaine in otological practice, are fully corroborated by Zaufal. (*Centralbl. f. d. ges. Therapie*, February, 1885.)

The principal indications for its use are otitis externa, to produce anæsthesia of the external auditory canal; operations on the tympanic membrane, paracentesis, galvano-cautery, plastic operations; in myringitis, otitis-media and chronic catarrh. In tinnitus aurium Zaufal obtained encouraging results with an instillation of four drops of a two per cent. solution of the hydrochlorate of cocaine. This observer also calls attention to the fact that cocaine is capable of reducing and preventing hyperæmia at the points in which it comes in contact with the tympanic membrane, and hence he thinks the drug is possessed of a vaso-inhibitory power.

In affections of the urino-genital organs, cocaine has also been advantageously employed. Its uses in obstetrical practice have not yet been sufficiently studied to obtain a just conception of its value, though it is certain that it is very serviceable in the pain produced by the tension of the perineum and the dilatation of the os. Dr. Cabot, of Boston, has used cocaine in an operation for phimosis, and found it to give satisfactory results. The researches of Dr. Blemenfeld showed that a complete urethral anæsthesia, extending to the posterior limit of the prostatic portion, might be induced by an injection of a small quantity of a two per cent. solution of cocaine. Solutions intended for the urethra ought to be prepared without alcohol (*Deutsche Med. Wochenschr*, No. 50, 1884). The indications for the use of cocaine for the urethra are, endoscopic explorations, operations, retention of urine, catheterization in cases of irritable urethra, prostatitis and lithotripsis.

That in vaginismus the drug is highly useful, is acknowledged by all observers. Dr. Cazin, of Brooklyn, reports a case of vaginismus of six years' standing, which was easily cured with the aid of cocaine. So also the use of the speculum can be rendered painless by a previous application of cocaine.

Dr. Bettelheim recommends its use in tenesmus of the sphincter ani and recti, the effect being instantaneous, though of little permanence.

There is apparently no limit to the sphere of usefulness of cocaine. It is also positively serviceable in all painful affections and operations on the larynx, and in various forms of neuralgia. Dr. Murel found it to bring prompt relief in certain forms of neuralgia, when administered either by an hypodermic injection, or, preferably, by frictions on the seat of the pain.

It is to be hoped that the present enormous price of the drug, created by the large and sudden demand, will soon drop sufficiently to allow of a general introduction into practice of this very efficient remedy.—*Therapeutic Gazette.*

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## SELF-DELIVERY BY LAPAROTOMY.

One of the strangest cases, perhaps, on record in the annals of gynæcological practice, was reported by Dr. Guggenberg at the meeting of German physicians in Tetschen, Bohemia—the case of a confined woman performing laparotomy successfully on herself, the woman herself in perfect health being presented to the Society. At 2 o'clock, as Dr. G. related, he was summoned to hurry to a woman who had cut her abdomen open. He found a woman of large and strong build, but of a thoroughly anæmic type, on a poorly-furnished bed, surrounded by unmistakable evidences of poverty. Examination of her eyes, which were lightly closed, revealed that her pupils reacted promptly to light and shadow ; her pulse was scarcely perceptible ; her consciousness, though not perfectly intact, was sufficiently clear to enable her to answer questions put to her by corresponding motions of her head. Examination of her body showed an incised abdominal wound running from above downward and inward, exposing a considerable quantity of intestines. The uterus was seen below, firmly contracted, of about the size of a child's head ; bleeding had stopped altogether. Between her knees he discovered a dead child.

The parts having been carefully cleansed and the intestines replaced, the wound was sewed up and dressed antiseptically. Besides vomiting and moderate fever for a few days, no unfavorable symptoms appeared. The history of this case showed that the woman had seven previous confinements, all more or less of a severe type. This time the labor-pains had been so intense that the woman felt convinced that she had to die ; and having heard or read of the Cæsarean section, she decided to perform it on herself, with the hope of thus gaining an easier death. She divided layer after layer, until a profuse hæmorrhage arrested her operation. A dark protruding mass was taken up, recognized as the afterbirth, and placed under the bed; finally a foot appeared, on which she dragged until the whole body had been drawn through the external wound. Having cut the cord, the woman lay down to die, but was shortly after discovered by her relatives in her precarious condition. She recovered completely, and is capable of performing the hardest kind of work.— *Wien. Med. Bl., January* 15, 1885.

## CLINICAL USE OF CHRYSAROBINE.

There is perhaps no remedy known to the Dermatologist which has been of more interest and used with more favorable results in the treatment of psoriasis, chronic eczema and the parasitic diseases, especially those of a vegetable origin, than the active principle of goa powder—Chrysarobine—formerly known as chrysaphonic acid.

It was used in the form of an ointment, prepared by gradually dissolving in various proportions the powder and simple ointment while being heated.

There being much discoloration of the hair, nails, and especially the clothing with which it comes in contact, and many times producing a violent dermititis, even by the use of a mild ointment, its use was almost entirely abandoned.

However, with these objections its employment could not entirely be ignored by those who best know its virtues until a more extended investigation was made to determine the proper method of its application, which has been done within the past twelve years in the following mixture, known as "Pigmentum Chrysarobine Compositum," the credit of which is due Dr. George H. Fox, and which is now extensively used in the New York Skin and Cancer Hospital:

| | |
|---|---|
| ℞. Chrysarobine | |
| Acid Salicylici aa | 10 |
| Etheris | 15 |
| Collodi flexis Q. S. ad | 100 |

There is another, which is also extensively employed, and with about the same results, but very much more expensive, the gutta percha being substituted for the collodion in the following manner:

| | |
|---|---|
| ℞. Chrysarobine | |
| Acid Salicylici aa | 10 |
| Liq. Gutta Percha ad | 100 |

Either of these prescriptions should be prepared in small quantities and kept in dark-colored, well-corked, salt-mouthed bottles, otherwise it will become of a dark, thick, muddy liquid from decomposition, which renders it entirely useless.

When properly prepared it should be of a light, bright, canary yellow and about the consistency of olive oil.

Physicians after using the above mixtures found that they furnish the best means of its application, consequently the ointment is rarely used.

The liquid is especially indicated in those cases where the psoriatic condition has existed for any great length of time or in those cases of a more recent date, where the eruption is extensive, with much elevation and induration. It may be used in such cases with almost unlimited success by applying it with a small brush after having carefully removed the dry scales which should always be done just before its application, the number of which should be governed by the amount of induration, elevation and exfoliation.

Should there be continuous scaling with a thickened condition, daily applications may be necessary accompanied with alkaline baths once or twice a week, as the case may require.

Its employment as a parasiticide is of recent origin, especially in the treatment of trichophytosis either of the hairy or non-hairy parts. It was thought dangerous until within the past year to apply this remedy to the face or scalp, but now it has been fully demonstrated that its employment in diseases of these parts is not only safe, but a sure cure for trychophytosis (ring worm) chromophytosis (tenea versicolor) and many others that might be mentioned. Dr. W. T. Alexander (*Journal Cutaneous and Venereal Diseases*) speaks of having successfully treated fifty cases of trichophytosis in one of the public institutions of this city in which there was an epidemic. Great care should be taken to prevent dermititis, a condition which often follows its application to the scalp, especially made bare by epilation or shaving, one or both of which should precede its application.

This condition is characterized by a peculiar pink discoloration of the skin, with swelling, congestion and tenderness, if this extends to or near the eyes, there may be slight conjunctivitis.

There is no reason why this remedy properly managed with the use of alkaline baths should not cure ninety per cent. of all cases of psoriasis, also any of the parasitic diseases.

While its use in chronic eczema is not so marked, it is many times followed with favorable results.

B. Merrill Ricketts, M.D., House Physician.
New York Skin and Cancer Hospital.

—*Cincinnati Lancet and Clinic.*

## THE POSSIBLE DANGERS, IMMEDIATE AND REMOTE, OF TRACHELORRHAPHY.

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*Résumé.*—The most important points which may be deduced from what has been said concerning the *primary dangers* would seem to be :

1. That primary hemorrhage, though not uncommon, is rarely alarming, and when severe, is easily controlled by traction exerted upon the cervix, or by one or more sutures passed deeply under the bleeding points.

2. That secondary hemorrhage is rare, but, when it does occur, is a serious danger. That it may happen, not only when the circular artery has been wounded during the operation, but also at times as a consequence of the cutting of a suture into a previously intact arterial twig. That when it does happen, if very severe, and the instruments are at hand, time should not be wasted in trying other means, but that we should at once apply the deep suture, twisted tightly on the side from which the bleeding comes.

In the absence of the proper instruments, and in moderate cases, *tight* tamponing with discs of alum-cotton will suffice, and not interfere with union.

3. On account of the danger of secondary hemorrhage from the cervix, it is an open question whether, in those cases where both lesions exist together, it is not best and wise to defer the repair of the lace-

rated perineum to some time after the closure of the cervical rent, and not, as a routine practice, do both operations at one sitting.

4. Menstruation commencing on or before the removal of the sutures does not necessarily cause trouble, if only they be allowed to remain *in situ* for a few days longer, or until it ceases.

5. Non-union occurs in about eight per cent. of all operations, the percentage of failures being larger in hospital than in private practice.

A flabby, hyperemic condition of the cervix is most apt to lead to this result, but it may also be produced by too tight or too many sutures.

6. Serious inflammation is a not very infrequent sequence, and even death occasionally follows.

7. Inflammation frequently occurs where there has been previous cellulitis, and it can be best avoided by recourse to the manipulative measures described.

What have been considered as *secondary dangers* by some writers, are shown to be in most cases palpable benefits, the facts given proving the following:

1. Trachelorrhaphy does not cause sterility.

2. On the contrary, it causes a decided increase in the productive fertility of the subjects of the operation.

3. After the operation there is even less liability to subsequent cervical laceration than there was at first.

4. There is no danger of anything like serious obstruction to subsequent labors by the cicatricial tissue formed in the cervix.

5. There is very little danger of producing serious stenosis of the cervical canal, except through inexcusable carelessness.—*American Journal of Obstetrics and Diseases of Women and Children.*

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PALATABLE POISONING.—We ask pardon of our friends, the publishers of the little work on "Palatable Prescribing," for misprinting it in our table of contents for April "Palatable Poisoning." We must have had in mind the case of a Russian patient of ours who took a teaspoonful of green paint with suicidal intent, and took a little "tsirop" to take the taste out of his mouth. But the little book is a good one, and we hope now that it has been unintentionally slandered it may gain hosts of friends.

## CASES OF PRURIGO (HEBRA'S).

Dr. C. Handfield Jones thus writes in the *London Medical Times*, February 28, 1885:

*Case* 1.—J. L., æt. 17, errand boy, admitted November 8, 1884. Father died of consumption, mother living. Is a stout-looking lad. No history of scrofula or syphilis. Does not remember having any serious illness, suffers from cough occasionally, and from rheumatic pains in shoulders and loins. Has occasionally some asthamatoid paroxysms, which are apt to come on when his skin disease is better. His present illness commenced three and a half years ago, when he was working in a bakery. Was treated at St. Mary's as out-patient, and afterwards was admitted, and placed under the care of Dr. Cheadle. At date of admission he had been suffering for eighteen months. He remained in the hospital thirty-five weeks, and left much relieved. He then got employment at a dyer's, and after two months the eruption came out again. At present both his legs are covered extensively with eruption, which affects chiefly the extensor surface of thighs, legs and arms. There is also a large patch on the front of his upper chest. His skin is very tough and hard, and in the affected parts more or less rough and red and thickened. Some discharge occurs, which stiffens linen. The affected parts itch severely, especially when he is warm in bed at night. One of his nails is marked by furrows. No albumen in urine. Some cough. Some pityriasis of scalp. Is otherwise healthy. Ordered a full warm bath with patent size every night, and a tobacco lotion, gr. 20 ad. ℥ x., to be applied in the day to the itching parts. Improvement had commenced by November 13th, but was interrupted by my ordering ungt. staphisagriæ in place of lot. tabaci, which coincided with a worse state of eruption and increase of itching. 18th.—Eruption looks much better, ungt. zinci is very agreeable, more soothing than the lotion. Bismuth ointment is not more effectual than zinc. November 27th.—No itching, sleeps well. He was discharged on December 12th very much relieved. His temperature in seven observations was normal. Phosphori gr. 1-33, *ter die* c̄ cibis, was administered internally during his whole stay in hospital.

*Case* 2.—B. Ph., æt. 15, milk-boy, admitted April 4, 1884. Father dead, was subject to same eruption as patient, so is his eldest brother. The other members of the family are quite healthy. He has had the malady more or less since birth, but it did not become very bad until two years ago. He attended as out-patient for nine months, was then better, and ceased attending. Got worse subsequently, and was advised to become in-patient. Has had no other illness during his life. Generally after much exertion, and getting hot thereby, he has difficulty in breathing and hurried respiration. This lasts from one to twenty-four hours at different times; he does not feel ill, but occasionally diarrhœa comes on with or soon after the attacks, and lasts a day or two. Eruption discharges at night when he is warm in bed, or is warm from other causes. Appetite good. He looks bright and fairly healthy. Says he is very well. Pulse 34, irregular. Skin dry and harsh, is thickened generally, and presents brown, scaly patches on feet, legs, front of thighs, back, upper third of abdomen, forearms, front and back, front of right arm. Temperature 100.2°. Heart and lungs fairly sound, rhythm of sounds at apex not regular. Urine s. g. 1025, no deposit, no albumen. Much itching. Ordered gelatine warm baths o.n. Lotio glycerini, ol. morrh., ʒ j. *ter die.*

On 10th, ungt. staphisagriæ was ordered, which he used four days without any good effect. Ant. pot. tart. gr. 1-20 + tr. calumbæ, ♏ v., + aq. ℥ j. *ter die.*

21st—Improved, eruption disappearing in all parts, itching ceased. Antimony caused nausea at first, but not now.

24th—Much improved, eruption almost gone from all parts except outer edges of legs and arms.

May 3—The eruption which lingers on the legs and arms is more the result of scratching than true eruption. Bowels act regularly every two or three days, but has colicky pain after defecation. Phosphorus, gr. 1-33 *bis die* commenced on May 1.

5th—Had an attack of shortness of breath to-day, after getting up in morning.

8th—Omitr. antimonium. Went out June 4 much relieved. He was readmitted September 8, with recurrence of skin disease. Musical sounds were heard in both lungs, in fronts and backs. Heart's sounds normal. Ordered warm gelatine bath o. n., and phosphorus, gr. 1-33 *bis die post cibos.*

September 11th—Skin at back of calf and in popliteal space of both legs looks angry, but causes no pain except smarting on entering the bath. No trouble in breathing. Pulse 96, regular.

October 9th—Hardly any itching, no eruption.

October 13th—Cough rather troublesome in night. Urine neutral; no albumen.

15th—Legs same, arms not so well. Had asthma this morning for about an hour.

23d—Arms and legs better. Bowels constipated; headache.

October 30th—Discharged, cured (?). Temperature normal.

*Remarks.*—The first of these two patients does not appear to have inherited his prurigo; it made its appearance between the thirteenth and fourteenth year of life. In the second, the disorder, or the tendency to it, was evidently transmitted from the father to two of his sons, and its external manifestation dated almost from birth in B. Ph. Hebra refuses to allow that prurigo is an hereditary affection, but this view is too extreme. In both cases the disorder was inveterate, being relieved for a time by treatment, but soon recurring again in full force. In both the patient was subject to attacks of quasi-asthma, which were more prone to appear when the cutaneous disease was brought into abeyance. In both the general health, apart from the irritation of the skin and bronchial membrane, was good. Only in case 2 some similar derangement of the intestinal mucous surface was occasionally associated with the pulmonary. The eruption itself was rather of indeterminate character, and had it not been for the severe itching, the obstinate tendency to recur, and the associated asthma, one might have hesitated to pronounce positively on the diagnosis. Hebra remarks (p. 259, Syd. Soc.) that "there are many cases of prurigo which may at first sight be taken rather for some other affection—for ichthyosis, eczema, impetigo, or ecthyma, from the peculiar and characteristic features of the disease being obscured by other more obvious symptoms." He prefers to be guided, not by what may be seen here and there on the skin, but from the *general impression* which the eye should always be trained to receive. The diffused roughness, harshness, discoloration and thickening of the skin were, with the other symptoms, decisive in my cases. As to the pathology, we may agree with Hebra in rejecting the popular notion of "acidities and acrimonies" as the cause of prurigo, but it is by no means certain that his own view is any better founded. He regards a pruriginous papule as a local lesion, originating primarily in the skin, which gives rise to itching by the pressure of its fluid contents—a minute drop of blastema—on the nerves of the cutaneous papillæ. He affirms that it is "only at those places where papules appear that itching is felt," that without papules there is no itching, at least in true prurigo, though he admits that "there certainly are cases in which itching is first felt, and consequent scratching produces all the visible appearances on the skin." But these are different pathemata, and he draws a marked and exact distinction between pruritus and prurigo properly so-called. Hebra's hypothesis seems to me opposed by the non-occurrence of itching in common pressure bullæ—as from rowing or walking—as also in herpes labialis, varicella and varioloid. Dr. Tilbury Fox maintained strongly the opposite view, that the basis of prurigo was a paresis, a disorder of the nervous element of the skin, that it was in fact a neurosis. He writes, "Since the intense itching is often the sole, as it is the primary and important thing present, other phenomena observed in the skin are secondary." The same view as to the essential importance of primary nervous system derangement had been previously maintained by Cazenave and others. If Hebra's statement as to the necessary dependence of itching in prurigo on the pre-existence of papules was established, it would be an important point; but, as we have seen, T. Fox denies it positively, while Hilton Fagge remarks that it is almost impossible to feel certain on this point, since we scarcely ever see prurigo cases before the skin has been scratched. Mr. Hutchinson, with his vast experience, actually questions whether Hebra's prurigo is met with in English practice, and is half-inclined to deny that there is any malady deserving the name of prurigo, and to affirm that "we ought rather to think of pruriginous irritation as a symptom which may attend a large number of different skin diseases." It seems to demand explanation on Hebra's view, why, since the scabies eruption produces itching in remote parts as well as *in loco*, the prurigo eruption acts so differently? The essence of Hebra's view seems to be that in prurigo the local lesion is everything, and the general condition goes for nothing. Hence, he consistently affirms that "external remedies alone are of any use in prurigo." But the existence of winter prurigo and of summer prurigo, as well as of prurigo uninfluenced by weather or climate (Hutchinson), goes far to negative the above dogma. The papular eruption must be identical, one would think, in all; but there is something else to be considered, probably the nervous system, on the peculiar state of which the result very largely depends. Until I met with the two cases recorded in this paper, Hebra's prurigo was scarcely known to me. They seem fair instances of it; but have the interesting feature, which Hebra does not notice, of pulmonary (or intestinal) disorders alternating to some extent with the cutaneous. This seems to me absolute proof that the morbid action was not merely local, but to some extent at any rate general. In the *Lancet* of July 6, 1867, I have mentioned a case where severe pruriginous itching suddenly ceased, and was replaced by melancholia. Metastases of this kind where one nervous disorder is succeeded by another at a remote part, can scarcely be regarded otherwise than as neuroses. As such I certainly reckon my two cases. All instances of pruriginous disorder may not be alike; to some Hebra's view may be fairly applicable, but in the great majority the nervous system seems profoundly implicated, and to recreate deteriorated nerve-force seems to me a rational object of treatment.—***Medical and Surgical Reporter.***

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# DR. CAMPBELL'S ADDRESS

Before the American Medical Association in New Orleans, April 28.

The "President's Address," by Dr. Henry Fraser Campbell, of Georgia, in the course of which, speaking of the position of expert medical witnesses in court, he said: "That the position of the medical witness, and, to a certain extent, all professional and expert testimony before the courts of law, is anomalous, and often one of false relation to justice, as well as to the ends of humanity, and sometimes mortifying to the pride and self-respect of the deponent, few will deny; for but few have been so fortunate as to escape the annoying experience of being at one time or another the subject of such arraignments—happy has he been who has had only his intelligence and his integrity assailed, and happy, too, that no malpractice suit has deprived him of his liberty and living as well.

"My object is more to bring the position of the medical man summarily before you, as he stands in his several relations to the tribunals of law, rather than to describe minutely that with which we are already familiar, or to present elaborate arguments to establish the existence of evils of which we are already convinced. I will, therefore, briefly refer to only a few of the more prominent *rôles* in the forensic drama (too often a farce), in which he is often forced to play his part, and in which, though he may be repeatedly *encored*, he seldom elicits applause.

"At the present time, and in the eyes of most communities, the plane to which the medical deponent and expert has at last gravitated is but little above that of the ordinary, if not the partisan, witness. The light of scientific truth he sheds is even sometimes suspected as coming with bent and refracted rays through the distorting lens of self-interest and a paid opinion. From circumstances which condition his testimony, he seldom now occupies in this country the honorable position of *amicus curiæ* or friend and instructor of the court on scientific questions, upon which may rest an important judicial decision. He is almost invariably presented as the medical witness, or the medical expert, in behalf of one side or other of the case upon trial. He is cited to appear as a witness in its behalf more frequently, not because he possesses superior knowledge of the scientific truths about which his testimony is to be conversant; not because his medical opinion *per se* is entitled to more confidence than that of another, and still less frequently—we could hope, never—because he has been suborned; but he is often selected because, with a certain standing in the community, he is known to hold opinions, or, on the representation of the attorney, can be made to adopt opinions favorable to the side on which he is to depose. Quite often his only claim to the character of a medical expert depends upon a summons thus conditioned. The reliance upon medical testimony, and, in time, confidence and respect for the medical profession, must necessarily be depreciated by such exponents of them both.

"Professor Washburn, of Cambridge, quotes the following words of Lord Campbell in addressing the House of Lords in regard to scientific testimony in general: 'What are called scientific witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence.'

"Without further general remark, I will here refer more or less briefly to the three principal positions or attitudes in which, as professional men, we most frequently stand related to the tribunals of law, viz: first, as the medical witness; secondly, as the medical expert; and, thirdly, as a defendant in suits of malpractice.

"In each one of these relations it could readily be shown that the medical man labors under disadvantages which do not, in the same degree, embarrass either the testimony or the defence of any other class of citizens. This is not the occasion to enumerate them, much less to put them under discussion. They have been long and fully recognized by the members of our own profession, while some of the most profound and astute minds of both the bench and the bar have diligently studied and yet have failed to remove them. For the deponent, whether medical witness or expert—and here we can consider them together before the jury—these difficulties often arise from the unlimited number and diversity of facts, and sometimes of principles, necessarily used as predicates for medical induction, and from the unavoidable complexity apparently connected with the reasoning by which conclusions, often perfectly legitimate, are arrived at. Thinking in technicalities, he is yet called upon to express himself in the plainest vernacular, often before an ignorant jury, or at least in terms simplified for the ready comprehension of non-professional minds.

"This last requirement is often violated; not always from a pedantic inclination, but from embarrassment under the novelty of the situation, and from the little familiarity with, and thought given, to questions in forensic medicine, and to the object of medical testimony as being instruction to the jury. He may be like Moses, 'learned in all the wisdom of the Egyptians,' but if he deposes only in the Egyptian dialect, only an Egyptian jury can be enlightened by him.

"Not alone in our own country, but at a still earlier date, and apparently with even a more sedulous care, have the forensic wisdom and ingenuity of foreign judicatories been exhausted in various attempts to elevate the position and to render more available to the ends of justice and equity the scientific witness and expert. Prussia, recognizing the evils of ignorant and unworthy experts in the medical profession, as well as in all others, from which scientific testimony has to be elicited in grave questions pending before the courts, has a toxicologist appointed by the government, and a permanent commission of experts in matters connected with medical science. In Scotland, medical witnesses are said to deliver their examinations in writing, but are subjected to oral cross-examination before the court; in France, the judges decide who shall act as experts in certain cases, also what questions shall be submitted to them, the answer being returned to the jury in writing; and 'practically it is said to have the weight of conclusive evidence.'—*Washburn.* 'In England,' continues Professor Washburn, 'much speculation and various schemes have been suggested for obviating the objectionable features of expert testimony, but thus far without the adoption of any system.'

"It will be seen that all these efforts, both in the United States and in the several countries of Europe, comprehend all scientific experts, and among them the medical deponent. They are not made in behalf of the witness, either to elevate his position, or, except incidentally, to recognize the high order of his testimony, but only to guard against his ofttime ignorance and unworthiness, and to make his testimony available to the courts. In most of the European courts mentioned, however, there is an incidental protection given to the scientific medical witness, from the assaults and indignities offered by the examiner and the advocate.

"In the United States, even, this incidental protection is rarely enjoyed by the medical profession. Often each side calls its medical expert, and his testimony, whether scientific or ignorant, impartial or partisan, is dealt with in open court by the advocates and examiners, at whatever cost to the witness, so that it can be made only to subserve the interest of one or the other side. Quite often the cause of justice is lost sight of, the significance of the deposition perverted by the artful methods of the examiners, and the casting of doubt on its credibility by the advocate. He is, as a witness and also as an expert, subject in his disposition to the arbitray, and sometimes offensive, and often irrelevant interrogation of the interested attorney, whose duty it may become to misinterpret or to suppress the significance of his testimony, and not infrequently to wrest it to the ends of that which, though the common practice of the law, are not the ends of equity and justice. In this way can the profoundly scientific and strictly conscientious medical witness or expert, on account of the inherent difficulties of his deposition, as before stated, more than any other class of witnesses, be made to appear to the average jury and to all ordinary minds present in the light of a crafty charlatan—the tool of some hidden interest guiding and directing his testimony.

"Albeit, the situation is one of grave and deplorable falsity and humiliation, I may here, for its aptness, perhaps not improperly indulge in what might otherwise be considered a facetious illustration of this perversion and suppression of medical testimony to the nullifying of justice, and, 'for the nonce,' to the degradation of the medical witness and expert in the eyes of the jury and 'all spectators.' The incident is accurate in all essential particulars.

"The case was one in which the wife had been accused of causing the death of her husband by poison—all attendant circumstances and testimony in the case confirmed the suspicion; and, lastly, arsenic had been found in abundant quantity, by careful and laborious analysis, in the stomach and tissues of the dead man. The medical expert was one of the most conscientious and distinguished members of our profession, and a founder of this Association; and, withal, 'as mild a mannered gentleman as ever'—had his throat cut, or his testimony scuttled, before an American jury. The advocate for the defense was one whose name, if mentioned, would at once be recognized by all present as one of the leaders of the American bar, and a statesman of the land; and, withal, one of the most powerful criminal lawyers that ever swayed the minds of a jury in behalf of the accused.

"*Scene.*—The crowded court-room many counties distant from the homes of both the medical witness and the advocate.

"Lawyer: 'Are you a physician?'

"Medical Witness: 'Yes.'

"L.: 'You are a professor in ——— College?'

"M. W.: 'Yes; Medical College of ———.'

"L.: 'What Chair do you hold?'

"M. W.: 'Chemistry and Pharmacy.'

"L.: 'Are you in the habit of analyzing for arsenic?'

"M. W.: 'Yes.'

"L.: 'Do you often find it in cases when called upon for your testimony in court?'

"M. W.: 'I have repeatedly found arsenic or other poison in the stomach of such persons.'

"L. (*with emphasis*): 'Have you ever failed to find the poison?'

"M. W.: 'It has so happened that in the cases I have examined the existence of poison had been circumstantially made out, and my analysis established the fact.'

"L.: 'You have always detected the arsenic, Doctor, in such cases?'

"M. W.: 'Yes.'

"L.: 'May it please your honor, we are satisfied with the witness.'

"Medical witness retires.

"This was the cross-examination, and this lawyer for the defendant had the closing argument. No further questions were asked the witness. He had shown to the satisfaction of all intelligent persons present that he had, in a most scientific, conscientious and expert method, supplied the last and convicting link in the unbroken chain of evidence required to establish the guilt of the accused.

"This was the attention the lawyer gave to this medical expert testimony:

"'Now, may it please the court, as to this medical—what they call 'expert testimony.' Consider the facts: He is a doctor; he is a professor in a college; his chair is chemistry and pharmacy.

"'Gentlemen of the jury, he is in the habit of testing for poison—he is the arsenic hunter and arsenic finder for his college, and, you see, he is a good one; he *always* finds the arsenic. He is obliged to find it—it would ruin his college and ruin him if he did not find it; but, gentlemen of the jury, I appeal to you as intelligent and scientific men, you are not going to allow my innocent, unfortunate client to suffer to support the credit of that college!'

"The murderess was acquitted by the jury almost without leaving their seats, as any one who knew the giant of an advocate she had might well have expected."—*Medical and Surgical Reporter.*

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VARICOSITY OF THE LINGUAL VEIN.—Just as varicosity of the hæmorrhoidal veins at the other end of the alimentary tracts points out the state of the portal venous system, so a varicose condition of the lingual becomes indicative of a dilated state of the whole jugular system. It is only an exaggerated varicosity that would seem to be prognostic. It does not always accompany the arcus senilis; that suggests rather arterial anemia than venous hyperæmia. The lingual vein being a branch of the internal jugular, will indicate the state of the blood-current in it, and so will approximate to the state of the brain-sinuses, the veins of Golen, and, indeed, the whole intracranial venous system.—*Dr. G. C. Dickson in British Medical Journal.*

# AN EPIDEMIC OF ACUTE CATARRHAL CONJUNCTIVITIS—"PINK EYE."

By H. F. **Hansell**, A.M., M.D.,

Chief of Clinic of Eye Department of Polyclinic, Ophthalmic and Aural Surgeon to Southwestern Hospital, etc.

Within the past few weeks so many cases of acute inflammation of the conjunctiva have occurred in Philadelphia and surrounding country, as well as in several other Eastern cities, as to warrant the use of the term epidemic. Some have presented the features of the ordinary non-epidemic catarrhal inflammation, while others, on account of the violence of the inflammation, have had the appearance of Egyptian (purulent) ophthalmia, and seemed bordering on it. Saemisch* thus defines conjunctivitis catarrhalis (simplex) "in general a condition of abnormally diffuse hyperæmia of the membrane attended with increased mucous secretion." It is a more or less active exudative inflammation, developing suddenly, and frequently, without assignable cause, reaching its acme in twenty-four or thirty-six hours, receding nearly as rapidly, entirely disappearing in three or four days, and leaving no trace.

As is well known, most of the forms of conjunctival inflammation are contagious, hence their liability to occur in epidemics. Exactly how the contagion is communicated is not known. It may be by actual conveyance of the discharge from a diseased eye to a healthy one by means of towels, fingers, etc.—*material means*—and it undoubtedly is in some cases, for example, in a family of several persons where each one is successively affected; but the majority of cases owe their origin to contagion conveyed through the air—*ethereal means*. An epidemic could hardly be produced by material means, but, as in yellow fever, cholera, etc., by the ethereal dissemination of the poisonous germs or bacteria. The indirect cause of conjunctivitis, that is, the direct cause of the epidemic, may probably be ascribed to a specific poison, which depends for its life and sustenance on moist filth, decaying refuse of all kinds collected during the winter, and which, liberated from its home by the warm rays of the spring sun, makes its way to our bodies, lighting up in one acute catarrhal conjunctivitis, in another typhoid fever, in a third acute tonsillitis, etc.

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*Graefe and Saemisch Handbuch der Augenheilkunde.

The recognition of this disease is not difficult. The inflammations most resembling it, and with which it is most apt to be confounded, are scleritis, episcleritis and iritis; but, if its prominent symptoms are remembered—bright red conjunctival injection—involving the entire membrane, greatest on the lids and gradually growing fainter towards the cornea; the mucous discharge collected in flakes in the folds, the adherence of the eyelids to one another in the morning; the history—epidemic—its sudden appearance, rapid development, and almost entire absence of pain, its disappearance in a few days under the simplest treatment, and its binocular character, the affection taking the second eye within a few hours of the first—and these signs are seen in every case—a mistaken diagnosis must be a rare occurrence.

The prognosis is always favorable. No serious complication is apt to arise. In severe cases the inflammation extends by contiguity into the tissue of the lids beneath the conjunctiva, and produces acute blepharitis. The adjacent connective tissue becomes infiltrated and œdematous, presenting the appearance of gonorrhœal ophthalmia. The secretion, although abundant, is never purulent. Œdema of the ocular conjunctiva (chemosis) may also be present, but is never very intense, nor does the inflammatory action extend to the cornea or iris. The former remains perfectly transparent, and the latter reacts readily to light and mydriatics. A symptom which may give the patient considerable anxiety is the peculiar appearance of a gas-jet, or other small luminous object. It is distorted from its proper shape and surrounded by a ring of colors. This symptom is caused by flakes of mucus on the cornea, through which the patient sees the light. It disappears for a short time, or is changed after winking and is of no importance. An existing error of refraction may be discovered after the inflammation has passed away by the inability of the muscle of accommodation to resume its abnormal contraction, a good and not an evil result.

The *treatment* is entirely local and of the mildest character. A weak astringent wash, such as borax, gr. v., and ℥ss each of camphor water and pure water, or the same strength alum solution, used freely and frequently on a soft, clean sponge to the closed lids, and the application at night of Pagenstecher's ointment—hydrarg. ox. flav., grs. ʒ j—or simple cerate will be proper for the majority of cases. If the inflammation shows a tendency to become chronic, touching the everted lid daily or every second day with silver nitrate, gr. ij—℥ j, will speedily effect a cure.

My experience with abortive measures is not sufficient to warrant conclusions, but in one case I was able to prove the efficacy to a ten-grain solution of silver. The patient, who was suffering from a severe attack in the right eye, was instructed to present itself immediately upon the appearance of the injection or sense of discomfort in the left. He did so. The silver was applied, followed by cocaine to mitigate the pain, and the next day the left was quite as well as the right. The injection had disappeared in twenty-four hours and did not return.

To prevent the spread of the disease all cloths, sponges, etc., used to cleanse an affected eye should be destroyed or thoroughly washed in a disinfectant solution. Precautionary measures, however, seem to be of little avail. In a private family, consisting of a mother, four adult sons, and two servants, all were affected except one servant, although one of the sons who was the first attacked was warned to be exceedingly careful lest he should spread the disease to the others. Five of the six cases were binocular.—*Medical News.*

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PERMANGANATE OF POTASH IN AMENORRŒA.—Dr. P. M. Deas, of Exeter, England, says (*Brit. Med. Jour.*) that from his experience he draws the following conclusions about permanganate of potash: 1. It is a useful and safe emmenagogue, and free from the disadvantages of some other medicines of this class. 2. Its use may be continued for months without any bad effects, and success need not be despaired of, even after many months. 3. Even when it fails as an emmenagogue it acts beneficially as a general and nerome tonic. It is best given in pill form, using Radlin ointment as an excipient; all saccharine material should be avoided in making the mass. The dose is from one to six grains three times a day.

## READING NOTICES.

Dr. DUMARS, of Peoria, reports the case of a man about 45 years of age, the janitor of the building in which his office is located, who had been a sufferer from *Rheumatism* for nearly ten years. The attacks were very frequent and very severe, often necessitating the use of crutches, and would not yield to treatment with any degree of certainty. During the paroxysms relief from pain was secured only by the use of morphine. Having received a sample bottle of *Tongaline* he gave it to this patient, who derived so much benefit from the use of its contents, that he took the remedy regularly. Having used three bottles within four weeks, he found himself entirely free from the complaint, and has experienced no recurrence since, although eighteen months have past, and he has been able to attend to all of his duties during two very severe winters.

DUNLAP'S "CHAMPION" STYLOGRAPHIC PEN.—A person who has never used a Stylographic Pen cannot possibly know its value or convenience, or he would certainly procure one at any price. We have used a Pen, presented to us by Mr. L. E. Dunlap, of Boston, Mass., for over two years, and we now intend to send for one of the new "Champion" Pens recently patented by Mr. Dunlap, as we are advised that it contains valuable improvements; one of the improvements being a compound spiral spring formed from a tube of hard rubber, while other Stylographic Pens have fine gold wire or metallic springs, which soon rot and corrode.

This newly invented Pen is unanimously endorsed by the trade as giving perfect satisfaction to their customers, and many say it is the only Stylographic Pen worth having at any price.

In order to successfully introduce to the public this new and valuable Pen, the manufacturers (Dunlap Stylograph Co.), 296 Washington Street, Boston, Mass., offer (for a short time only) to send by return mail, to any address in the U. S., a "Champion" Pen, six months supply of ink, and a beautiful gold-mounted pencil, on receipt of the price of the Pen, which is $2.00 each for plain, and $2.50 each for gold-mounted.

The "Champion" Pen is the same in style and finish as Pens sold everywhere at $3.50 and $4.00.

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THOMAS F. WOOD, M. D., Editor.

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# ORIGINAL COMMUNICATIONS.

## A CASE OF INTRA-CAPSULAR FRACTURE OF THE NECK OF THE FEMUR IN A YOUNG SUBJECT.

By B. M. Cromwell, M.D., Eckhart Mines, Md.

On the 20th of last June (1884), while Adolph Hoeffler, a youth of 18 years, was on his knees digging coal, he noticed that the roof was insecure, and in attempting to move out of the way, while still on the left knee, a lump of coal weighing about 300 pounds fell from the roof, a distance of abeut six feet, on his sacrum, crushing him down. He was brought out of the mine, and in less than a half hour I saw him.

As he lay on the stretcher, his pantaloons being removed, this is the condition he presented on inspection: His countenance pale, pinched and anxious, skin cool and pulse very feeble. He was evidently suffering from shock verging closely on collapse. His left leg was shortened about two inches, slightly flexed and inverted, so that the toes oi the left rested on the dorsum of the right foot, and above the trochanter and a little behind it, was a tumor about the size of a small orange.

I did not doubt, from the aspect of the case on inspection, that I had a dislocation of the head of the femur on the dorsum ilii to contend with. On proceeding, however, to make a more critical examination, having first ascertained that there was no fracture below the trochanter, I found that by grasping the ankle and making quodrate traction the limb could be readily brought down to its normal length; that the motions of abduction, adduction and elevation, and rotation could all be easily produced, but with much pain to the patient. On examining the tumor on the dorsum ilii I found it to be soft and yielding in any direction to pressure; it was evidently fluid. The inversion, I found, could not be perfectly overcome by any force I thought prudent to apply to the leg. On relaxing my hold on the ankle the shortening at once reapreared.

I could detect no bony crepitus, and only once thought that I detected such crepitus as is produced by torn ligament or cartilage. I examined for crepitus repeatedly during the progress of the case by placing my ear over, and at times on the trochanter, while an assistant would gently rotate and otherwise move the leg, but never detected it. The trochanter on the affected side seemed as prominent as its fellow on the opposite side, but was felt on a plane higher up on the pelvis. I could detect no injury to any of the bones of the pelvis, and as he could sit up, and for a reason hereafter to be given could not lie down, I was sure there was none.

It was not until the day after he had received his injury that I found him sitting propped up in bed, and on asking his reason for doing so, he said that the lower part of his back pained him so much that he could not lie on it. On examination I found the sacrum covered by a sack of fluid partially filled. Not knowing the nature of the contained fluid I punctured it, and there escaped about six ounces of bright arterial blood. This gave him so much relief that I evacuated the sack four or five times during the progress of the case, each time letting out arterial blood and serum. The last puncture gave vent to nothing but serum. He called my attention also to his scrotum, the lower segment of which was black from infiltration of blood. There were also evidences of effused blood in the tissues all round the rim of the pelvis, from the sacrum to either anterior spinous process. The tumor on the dorsum ilii first noticed, entirely disappeared after the sack over the sacrum had been opened, leading me to believe that the blood from that point had gravitated to the sacrum and formed the sack there.

My diagnosis was fractuae of the neck of the femur within the capsule, with laceration of the capsule and complete displacement of the fragments—the force from above, while he was on his knee, driving the pelvis down and with it the head of the bone, and forcing the trochanter up about two inches.

It was possible, however, that the neck might have given way at its junction with the trochanter, which would have made the fracture extra-capsular. Such was my hope—a hope strengthened somewhat by the youth of the patient and the obliquity of the neck in young subjects. The marked and persistent inversion of the leg was a symptom I could not readily account for, as in fractures of the femur above the trochanter, both within and without the capsule, eversion is the almost invariable rule. Prof. Frank H. Hamilton, however, in his admirable work on "Fractures and Dislocations," cites several instances where inversion has occurred, and says that one instance came under his own observation. He speaks of the difficulty of accounting for this condition when it does occur, and refers to a specimen that Dr. Bigelow had an opportunity of examining, from which he (Dr. Bigelow) concluded "that the inversion was due to the extent of the comminution, which had separated the walls of the shaft so as to receive in the interval the whole neck, instead of the posterior wall only, as commonly occurs."

In the case under consideration, when we reflect on the position the patient was in when he was injured, and the direction of the injuring force, we can readily imagine that the distal end of the fracture in pushing through the capsule, would lacerate only its upper segment, and that the lower segment, in following the bone, would not be lacerated, but stripped off from one or the other of its attachments, and would thus become a loose flap or valve, that might readily interpose itself between the ends of the bones, that it might also become so twisted as to counteract the natural tendency of the leg to fall outwards.

There is, however, another fracture occurring at the hip-joint—one likely to be produced by just such an accident as we have in this case, where the inversion of the leg is the rule. I refer to fracture of the rim of the acetabulum.

I excluded this accident in making up my diagnosis, because in these fractures there is really a dislocation of the head of the bone on the dorsum ilii. The head of the bone can be plainly felt in its new position; it requires much force to bring it again in the acetabulum, and thus restore the length of the limb; it does not immediately fly back when the reducing force is removed, and there is crepitus. This crepitus, Dr. Hamilton says, "is sometimes discovered the moment we begin to move the limb, and this will aid us in distinguishing it from fracture of the neck of the femur, accompanied with much displacement."

The readiness with which the patient's leg was brought down, the absence of crepitus and of the head on the dorsum, and the free mobility of the limb in any direction except eversion, leave no doubt that it is a fracture of the neck; while the great displacement of the fragments, coupled with the fact that after five weeks there is no attempt at union, and no discoverable callus thrown out, warrant me in believing that the fracture is within the capsule.

He was kept under the influence of opium to relieve pain, and he was sustained, after subsidence of the acute symptoms, by moderate stimulation and generous diet. Towels wrung out of cold water were applied over the injured hip, and these were kept up until the effused blood had been absorbed, and all danger from local inflammation had passed away. His leg was placed upon a double inclined plane for the first day, but believing that the irksomeness caused by the apparatus was proving too great a strain upon his already over-taxed vital powers, it was removed, and the leg was supported by pillows for the following three weeks—until all pain had subsided in the injured part, making it unnecessary to continue the opium, and until all fever had subsided. This course I would have pursued regardless of the nature of the fracture and the almost hopelessness of obtaining union. The first duty of the surgeon is to preserve the life of his patient, and afterwards to give him as good a limb as circumstances will allow. I am satisfied that I have seen many valuable lives lost after compound comminuted fractures of the thigh from gun-shot wounds, by the persistence of their surgeons in harnessing them up in stiff and irksome apparatus to procure good results; and I have seen these cases die out with a persistence and regularity that astonished those having them in charge. I have seen, on the other hand, four such cases at one time, where, fortunately for them, no apparatus of any kind was procurable, stretched out on their straw pallets, with their legs supported on either side with sand bags, recover without an untoward symptom and in an incredibly short time. There were five of these cases brought to me on that occasion; one was removed to another hospital, where he had the benefit of surgical appliances of all kinds, was placed, I think, on an inclined plane, and died in about ten days. The other four recovered, as stated above, and (if my memory serves me correctly) were up and on their crutches in periods ranging from six to eight weeks.

At the end of three weeks, the patient under consideration having recovered from all constitutional symptoms, it was thought best to place his leg in extension by means of Porter's modification of Smith's anterior splint. Dr. A. B. Price, of Futburg, who was conversant with this splint, was kind enough to aid me in applying it, and by it we were enabled to bring the leg down its full length, until it was of the same length as its fellow on the opposite side. This extension was uniformly maintained for two weeks, when, on examination. it being found that there was no effort at union, and no callus thrown out, it was considered useless to maintain the position any longer, and the splint was removed and he was given his crutches.

At the date of this writing (May, 1885) the condition of the patient is as follows: The shortening in his injured leg is apparent enough, although he wears a huge heel on the shoe of that foot—giving him the peculiar rolling gait, when he walks, of a sailor on land. He has been in my employ as stable boy for the last six months, and has therefore been under daily observation. He seems to suffer no inconvenience whatever from his injury, never complains of pain, rides a horse, and otherwise stops at no work.

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PLOVER'S EGGS are found out to be more digestible, because that, like all eggs which hatch fledged chicks, the albumen is thinner, and it is peptonized eight or ten times more readily than ordinary white of egg.

# ADDRESS OF W. C. McDUFFIE, M.D., THE RETIRING PRESIDENT.

Delivered before the Medical Society of North Carolina, at Durham, N. C., May 20, 1885.

*Gentlemen of the Medical Society of North Carolina:*

The haltless march of time brings us again to the threshold of another year of our existence as an organized association.

To-day we enter upon its thirty-second annual cycle; and when I reflect upon the seeming brevity of the fifty-two weeks that have elapsed since our last anniversary, I am impressively reminded of the "but yesterday's" enjoyment in "the City of Oaks," and of the magnificent hospitality of its warm-hearted citizens.

We assemble to-day in this youthful but vigorous town, invited to partake of its "nectared sweets," and while it is our chief concern to study the enigmas of life, and by deep research discover the causes of all human suffering, and the surest modes of their removal, yet let us enjoy unalloyed the pleasure that these our annual respite days afford. It is with this feeling I greet you, and grasp with hearty zest the hands of those I meet but once a year.

A retrospect of the affairs of our Society during the past year shows much that will interest the historian, and while it is not my intention, in this short address, to look back, but ahead, yet I cannot forget, or omit, to notice the labors of our profession as a sanitary organization, and the crown of success obtained by persistent effort. Like the faithful sentinel on the watch-tower, who spies the enemy afar off, so we know that the price of health is "eternal vigilance," and while our shores were free from the dread pestilence which was devastating other lands, we reorganized, as it were, and secured the means wherewith to prevent its spread, to stay its progress, should the emergency arise.

The legislative enactment for this, and those for the State Board of Health and the practice of medicine, was the result of the combined efforts of members of our Society inside and outside of the Legislature, and are long strides in the path of advancement, to which I shall allude further on.

The past year has been one also of peculiar interest to the busy practitioner. The almost unprecedented dry summer and fall, extending from July to November, nearly throughout the entire State, brought many of us in contact with diseases showing much malignancy in character. This is the experience of all with whom I have conferred. We have suffered defeats, perhaps, as well as gained victories during this busy period of our professional existence, been depressed, as well as elated, as the battle went on, but we have the consolation that follows duty well performed, and again, "To hallowed duty, here with loyal and heroic hearts bind we our lives."

"Rugged strength and radiant beauty,
These are one in nature's plan,
But humble toil and heaven-ward duty,
These will form the perfect man."

Death, our common enemy, has invaded our own ranks since last we met. 'Tis meet that we pause and drop a sympathetic tear. We have been called upon to deplore the loss of such estimable members as a Robinson, a Whitehead and a Pender. Men whose kindness of heart and benevolent example have ennobled human nature. It is the death of such men that communities mourn, that social circles weep over—men whose places cannot be filled. These were burning and shining lights that have gone out in the Medical Society of North Carolina. Those busy brains are at rest. Those great hearts, always responsive to duty's call, to the cry of distress, or the sweet accents of affection, are still! Those once elastic frames, that never wearied in well-doing, "in journeyings oft, in labors many," are stark in death; and those brilliant minds, that irradiated beyond mere localities, are lost in the blaze of infinite intelligence! Their eulogy is left for abler pens than mine. Suffice it now that we hear the whisper from the spirit land, "Be ye also ready."

It is not, in my humble judgment, the rightful province or the proper function of the presiding officer to consume the time of the Convention with a lengthy thesis upon any particular medical subject. Such thesis should be the work of the members, and especially of the chairman of sections, and I trust we may have the pleasure of listening to much at this Convention which will command our attention and make our session both interesting and instructive. It would seem rather to be the duty of the President to suggest or point out ways and means of improvement in our workings, something whereby our progress and advancement as a body of men seeking to benefit mankind, may be made more rapid, more interesting, and withal more harmonious ; if he can do that he will have accomplished enough to gratify the ambition of the most aspiring member of our Association.

I am not vain enough, my friends, to expect *great* results from my feeble effort to-day, but it may be that, perchance, in my earnest desire to see our noble profession go forward in advance of others, I may let fall a word, or give vent to an idea, that will eventually assist in raising the standard of our high calling. I shall at least impose upon myself the obligation of candor, as all conscientious inquirers should do, and if the suggestions are not based on sound reasoning, let them fall.

With this view, I will ask the attention of the Society for a short time to the subject of

## PREPARATORY EDUCATION.

That learning is useful for the purpose of perfecting civilized society, has been so frequently repeated and so generally and unhesitatingly received as a maxim, that no one would be found to question its truth. But probably one of the greatest evils which accompanies the spontaneous assent to evident propositions is that, generally, being couched in universal terms, expression becomes ambiguous, and while words are preserved, ideas may be lost. It is well, then, sometimes to revert to those maxims in order to fix their meaning by elucidating their phraseology.

Literature has usually been considered under a two-fold aspect—speculative and practical—while the former merely regards abstract truth, the latter applies it to our concerns. I am inclined to believe that there exists much less of mere speculative learning than is generally supposed, and that what frequently receives the appellation, is but the appropriate basis upon which is raised the great superstructure of that which is practical. Allow me to illustrate by example. The demonstrations of mathematics and the calculations of algebra, would by many persons be denominated speculative, and even some might be found who would call their study idle, but abandon them, and see how much practical knowledge you destroy.

The observation of the paths of the planets, the distances of stars, their magnitude, relation and position, would seem to have little influence upon the ordinary avocations of busy life, yet it is clear that the science of navigation depends chiefly upon astronomy, and thus much of the profit derived by our active merchant from the facilities of our age has been remotely created by the researches of some secluded sage, whose bones have mouldered in former centuries in Chaldea or in Egypt. There is no such thing as speculative science that is not applicable to the common purposes of life.

Let us take up what are usually designated as the "learned professions." Law, which is the creation of rules of conduct, and the enforcement of those rules, perpetually implicates life, liberty, property, public peace and private security. Here, besides, that mental discipline and habitual restraint which arise from a good education and a regular exercise of superior faculties—a nice power of discrimination and an extensive acquaintance with ancient legal enactments, etc., will be at least highly desirable, in fact, necessary. It is true, that here there is much of what is usually called practical, rather than speculative; but to converse most beneficially with the ancient legislators we should speak their language. This is only attainable by the aid of a classical education. It is not unfrequently urged against this position that we have seen many instances of great men who have well discharged their duty without these aids. I do not question the truth of the assertion, but my inference would be that they would have done better had they been so aided. It is added that men of this description have in some instances outstripped those of classical attainments. I would only reply that with the help of those attainments they would have gone farther. Let us view the requisite qualifications for a useful member of our own profession—for an accomplished and scientific physician and surgeon.

Besides that power of acute perception with which, as a kind of instinct, a man might be specially gifted, so as almost intuitively to detect the seat, the nature and the extent of a disease; it is highly desirable that the mind should have been so disciplined as to avoid the hasty conclusions to which an overweening and too confident self-sufficiency would rush. The general and usual diagnostics are greatly modified by the habits of the individual, by the influence of climate, by the period of life, by the previous treatment, and by a number of other peculiarities, which vary to an indefinite extent. If the truth of the admonition *festina lente* can be more usefully practical in any one case than another, it is here. Genius, decision and action, quick as thought, can, and often do, much for life and health, but unfortunately they may also, by one mistake, fix the irrevocable doom of the patient. It is not by the knowledge of the vocabulary of a dispensatory, and an acquaintance with some of the chief properties of drugs; it is not from the hasty and wanton mangling of a decaying subject, and possessing a general notion of the uses of bones, muscles and vessels, that correct and useful medical skill is acquired. No; it is by the laborious investigation of a clear, calm and cautious mind. No reading can supply the place of judgment, but no power of judgment will avail much without facts upon which decisions may be formed. *An original and distinct perception, united to deliberate reflection, and a steady habit of observation, form the best foundation for useful healing knowledge;* and every mode by which these faculties can be improved is an important branch of previous education.

I would ask here whether, generally speaking, the mind is prepared to receive the seeds of any science with no better preliminary education than is generally afforded by an ordinary "old field" "rule of three" school? I would unhesitatingly say no; and my belief is that it would be just as reasonable for the farmer to expect a superior crop from unprepared soil, as it would be to look for medical or surgical proficiency from the attendance upon lectures by a half educated youth, let his natural abilities be what they may· Whoever, either from his own experience or the testimony of others, is acquainted with the progress of knowledge amongst students, must at once concede that the unprepared tyro in science will lose much more than is usually supposed, at the commencement, from the mere inability of an untrained mind to comprehend the views or to keep pace with the strides of an experienced proficient. We are the creatures of individual habit; no speculative observation will supply the place of training—it will certainly do much to improve the observer; but it will never, even in a moderately remote degree, be equally beneficial. It is true, you may sometimes meet with apparent exceptions to this rule, but I apprehend that, upon close examination, they will not be found such in reality.

As there are men of great natural strength of body, of well regulated courage and extraordinary ability, who will always be an overmatch for the best trained individual of puny frame and nervous debility, so in the literary world, there are those to whom God has given great mental energy, but to which man has added little cultivation; such persons will always surpass these others, upon whom great human labor has been comparatively lost, because the Creator has withheld the necessary share of capacity. I need not dwell upon the impropriety of raising a sophism upon this fact. I believe you will agree with me that they whom this delusion could influence are not of the race of intellectual giants. Yet in this broad land of ours, where there exists a general ambition to obtain the honors and emoluments of the learned professions in the shortest possible time, with the least possible expenditure, and only that quantity of exertion which will barely suffice, there must always be a disposition to dispense, as far as possible, with extensive preparatory education. When we add to this that self-love, which in every individual creates partiality and great esteem for ourselves, and take into account a propensity to draw conclusions rather from possibilities and the imaginary fitness of things, than from observation and fact, we need not be surprised at the prevalent disposition to dispense with, or at least greatly curtail those preliminary modes of mental exercise which discipline the understanding and regulate the judgment. We need not be astonished that by many persons the information which I would call practically useful will be denominated speculative; such, for instance, as mathematical and metaphysical reasoning. These strengthen the youthful intellect, and a mind thus prepared will be more powerful, more attentive, more patient, more discriminating and more expert.

The attendance upon a single course of scientific lectures by a person thus prepared will generally be more beneficial than the same course *thrice* attended by the same person without this previous exercise.

Medicine is a more extensive school than that of the other professions; here we need absolutely a knowledge of the dead languages. It is in those languages that we are enabled to converse with the great fathers of our science especially, and the youth who expects to walk in the path of scientific investigation, will find that training here is far from wasted time, or labor spent in vain, for in after years he will find that the labor of a few years in his youth is in fact the economy of a large portion of his subsequent life, and the greatest aid to his accuracy in practice. For him a large part of what is hastily called speculative, is the basis of truly practical knowledge. I desire to be understood as holding that, in each of the learned professions, and in that of medicine, in particular, the usual classical education is an exceedingly useful preparation for the professional study *itself*, and that what is so often pronounced unnecessary literature, is, in reality, absolutely and truly practical.

During centuries the way to the temple of literature has been through the halls of the ancients, and the languages of the republic of science have been principally the Greek and Roman, especially and more generally the latter. They who have been eminent in these great departments of knowledge were made familiar with these tongues by their early and assiduous labors amongst the classic authors.

We have occasionally, it is true, beheld some gigantic warrior, careless of discipline, untutored in tactics and despising evolutions, rush boldly into the fight, and spread destruction and terror for a time, but when the first emotion subsided, and his manner was observed, how easily was he overcome. The transient success which he obtained was the result of the mighty force with which he had been gifted originally, and the unusual mode in which he made his assault; but suppose he had added to his natural prowess the advantages or discipline, how much more formidable would he have been? The war cry of such a combatant seems to furnish a practical illustration of the soundness of his cause, yet I would ask, to what are we to attribute that suggestion which is continually urging the observer to make considerable allowance in favor of such men, *because* of their want of regular education, if it be not a universal concession that the mind thereby prepared is made therefore superior? For why should anything be conceded because of the neglect of a sound education, if the want of that disciplinary course be not a manifest disadvantage? Besides the energizing influence of this early discipline upon the mind, the acquisition of such an education affords such pleasing and profitable recreation in after life.

I can recall to mind men who, even in their old age, found in classical literature that recreation which improved, while it relieved, the mind—men who could feel emotion at Cicero's eloquence or melt at Virgil's pastoral strain. In exercises like this the understanding is informed, the memory is strengthened and the mind is relieved. In the midst of our struggles through this changing life, it is well to have some literary scenery, which will be to us "as a city of refuge" until we shall be able to recruit. The effect will be like that described by Moore:

"Let fate do her worst; there are relics of joy,
Bright dreams of the past, which she cannot destroy;
Which come in the night time of sorrow and care,
And bring back the features that joy used to wear."

There is no "royal road"—arduous study, along the same path (in the field of classical cultivation), trod by all immortal authors of the past. Pope says:

"'Twas from learned Greece, which her useful rules indites,
Where to repress and where to indulge our flights;
High on Parnassus' top her sons she showed,
And pointed out these arduous paths they trode."

It is no waste of time for the young man to equip himself to the fullest extent possible before entering upon his career as a medical student—it is time saved.

I have touched upon classical education as of great importance to the literary character of our professional men, not so much from an expectation to escape the insinuation that this "higher education," as it is sometimes called, has not been attained by all of us in our preparatory course, as it is with the expectation that you will devote all your efforts to its attainment by the rising generation, and that we may all insist upon carrying out the resolution passed at our last Convention, offered by Dr. Cobb, in which we pledged ourselves, by unanimously adopting said resolution, "to take no young man into our office to read medicine who did not possess the requisite preliminary qualifications." Indeed, it was reflecting upon the great advantages that would result from this advanced step, if the resolution was strictly adhered to, that led me to select this subject for consideration. The prospects are fairer now than ever before that the standard of the medical profession in North Carolina, individually and collectively, will be greatly advanced in the near future. We have the greatest encouragement. The law-makers of our State have at last shaken off their long-existing apathy and opened their eyes to the necessity of recognizing our unselfish claims in the cause of humanity. Let us now feel that State prid which will cherish every institution of learning within her borders, so that, as she rises in the scale of political and commercial importance, she may also be elevated in scientific and literary fame. And this should be our legacy to posterity—inform the youthful aspirant for medical honors "'tis education forms the common mind." Remember, too, that we must keep pace ourselves with the progress of the times. Human science, like human labor, is progressive, and the peculiar duty of the physician, like that of the workman, is to exert himself for the improvement of what he received in a State of imperfection; for while primary equipment is necessary, continual study is equally essential to the physician who expects to improve himself, or to advance the science of his choice. Are we doing this? I fear there is too much reason in the charge that we are not. One evidence of our culpability is seen in the almost total absence of original communications to our valuable State JOURNAL. With a very few exceptions, the editor's own fertile brain supplies the original matter, and the neglect of his co-laborers in the State to assist, compels him to make selections from foreign writers. True, they are good selections, but why not furnish him with State productions, and let him select from them? Have not our members the taste, the pride and the ability! Then why neglect the encouragement of literary culture in those coming after them? Some of this apathy may be attributable to timidity, some to actual laziness, and perhaps much of it to want of taste for literature generally. This latter is what I would wish above all things to see changed, not to "*cacoethes scribendi*," but to a habit of writing their views correctly, as well as to increase the desire for reading; and I am free to say that *the neglect of a thorough preparation for the study of medicine is the great cause for this want of taste.* The mind has become easily satisfied, and, though the field is ample, the taste is wanting. Suppose this state of things becomes universal in our Society, where will we find ourselves in a few decades? Excelsior must be our motto, and who will undertake to say what another half century will unfold?

And in order to further advance our position as a literary association in the eyes of the world, as well as to improve our own minds as physicians, and increase and intensify our interest in the noble calling of our choice, I would most earnestly recommend that a special and separate section on Medical Jurisprudence, or, more properly, Forensic Medicine, be created, and a chairman appointed at each annual meeting, as is done with other branches.

The reasons for this movement, I think, are obvious. We see almost daily reports of great criminal investigations going on in the country, and we are too frequently put to the blush at seeing some of our profession staggering under the heavy blows of some astute attorney, whose whole store of medico-legal lore consists, perhaps, in what he read the night before in Beck, Taylor or Wharton and Stillé. And in many instances we see, also, that there is very little agreement amongst the experts themselves—wide differences, perhaps, upon some physiological aspect of the problem. We need uniformity, an unmistakable standard, based upon scientific principles. Until such a standard is established, and such progress made, the public may expect many flagrant defeats of justice. At present there is too little thought given to this subject by our profession.

It should be remembered that forensic medicine, or the application of medical knowledge to the purposes of the law, is a distinct branch of medical science, and does not properly include hygiene or sanitation, but embraces all those questions which bring the medical man into contact with the law. Its history is comparatively modern, for while we have to start with the earlier periods of Greek civilization to find a distinct and organized profession of medicine, we have only to go back to the beginning of the present century for the *first* lectures delivered on forensic medicine, which was in Edinburgh in 1801. In 1822 there was not in the English language a single treatise on medical jurisprudence, but since 1829 there has been an abundant crop of literature on the subject• Christison's admirable treatise on "Toxicology," Taylor's elaborate works, Guy's "Forensic Medicine" (English), while American has not been behind. "Wharton and Stillé's Manual" and "Womley's Toxicology" are standard works. The high position which our profession occupies to-day, in every other respect, and the bright prospects in the future of its ranks being filled by the best material, should encourage us to make every effort to keep pace with every literary organization in the land; and yet there are many of us who could not, to-day, undergo the crucial test of the witness-stand and come away with credit to ourselves or honor to the profession; or, what is equally important, with much benefit to mankind. Why is it? Is it because we are deficient in education, intellectual ability, natural endowments, or professional attainments in our ordinary practice? or is it not simply because we have paid little or no attention to medical jurisprudence as a *distinct* science, and have therefore allowed ourselves to fall an easy prey to the sharp interrogatories of the bar. This should not be. We should attain to such a thorough knowledge of this important branch of our profession, that at any time, when called upon, we could not only enlighten the bar, but the bench, and be competent to overshadow the flimsy excuses for crime, upon the one hand, or guard and shield the innocent upon the other.

I have no doubt of the practical advantages that would accrue from this step. The chairman of this section, in his report, could not only give statistics of important cases of recent occurrence, and the medical testimony, with its special bearings, but also could select for his subject some of the deadly poisons and discuss the points of distinction between symptoms produced by these and those produced by disease, or the various character of wounds, would afford an ample field; or infanticide—a crime altogether too frequent in our country, and too frequently unpunished for want of clear medical testimony—any of these subjects in his report, accompanied by the highest medico-legal authorities upon their judicial aspects, would call the attention of the members annually to this branch, and thus enable them to familiarize themselves with a matter of such great importance to the public and to their own honor and standing. I would therefore repeat the recommendation for the establishment of this section separately.

Again, I would suggest that our code of ethics be published with the transactions, and distributed to all members of the Society.

It is an important matter that we should keep our rule of action before us—the one rule for the guidance of all—else how can we expect true ethical conduct in those who have not even read our law on professional etiquette. We must make ourselves familiar with our professional limits, remembering that while we are "separate as the waves, we are one as the sea."

One word now to the younger members of our Society, already at work, but just at the threshold of practical investigation and restlessness. I would ask them why should not North Carolina indulge and cherish the holy ambition of placing the standard of medical science on as lofty an eminence as that of any of her sister

States? This State has held high rank for the literary attainments of its professions—surely she ought to complain of her sons in one of the grandest of all professions, if, recreant to their patriotic and literary reputation, they degenerate from their fathers, and slothfully permit themselves to be surpassed by those of any other State! I will not believe it, but rather cherish the expectation that they will arouse to exertion, and in their own favored State, under their own serene sky, they will generously climb the hill of science, and cultivate to its very top, crowning its summit with all the improvements pertaining to medical skill, which will not only delight the eye by the richness and delicacy of their color, but will gratify the taste by the excellency of their fruit, and send through leagues on every side an odorous perfume fitted to regale the home of her children, and attract the praise and admiration of the stranger!

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DR. FERRÁN.—The Madrid correspondent of a daily paper gives the following particulars of Dr. Ferrán, whose astounding researches on cholera have been received with such enthusiasm in Spain and with so much suspicion elsewhere: "Dr. Jaime Ferrán is only 33 years of age, and, after passing through the customary curriculum at the Institutes of Tortosa and Tarragona, took his M.D. degree at Barcelona. He has been in practice at Tortosa for several years, and is already well-known for his work on micro-telephony in 1878, and for his curious investigations on micro-biology and parasites, which were rewarded by the Royal Academy of Medicine in Madrid. Dr. Ferrán was sent to Toulon and Marseilles during the last epidemic of 1884, and he spent several months with German, French and Italian surgeons, studying the epidemic, and especially Dr. Koch's comma-bacillus. Those studies impelled Dr. Ferrán to pursue his investigation, on his return to his own country, and he thus came to the conclusion that Dr. Koch had only observed one of the many stages of this microbe's successive developments. Senor Ferrán has discovered that, by submitting the comma-bacillus to certain chemical elements very similar to the bile of animals and to the gastric juice of the human stomach, this microbe passes through successive and invariable stages of development, in one of which he has detected the eggs, which are, in his opinion, the real generators and propagators of cholera."—*Med. News.*

# A STUDY OF THE SUBJECT OF SPONTANEOUS RUPTURE OF THE MEMBRANES AT FULL TERM OF GESTATION PRECEDING THE BEGINNING OF LABOR.

Dr. G. W. H. Kemper, of Muncie, Indiana, in the April issue of the *American Journal of the Medical Sciences*, offers a careful study of fifty cases of spontaneous rupture of the membranes, occurring in his first seven-hundred obstetrical cases, and he finds that :

1. The spontaneous rupture of the membranes at full term of gestation, and preceding the beginning of labor-pains, is an event of common occurrence, averaging about once in every fourteen labors.

2. When the membranes are broken, as a rule, labor supervenes at once, or within the next four hours, but may be delayed several hours, days, or even weeks.

3. When such an accident occurs, the duration of the labor is not necessarily prolonged, nor rendered more painful.

4. The mortality of the mothers is not augmented, and the ratio of still-born children, if at all, is so slightly increased as to amount to a minimum.

5. The causes are not well defined. The repetition of the accident in certain women shows that with some a tendency is inherent. A possibility of atmospheric influences, especially a low temperature, as an exciting cause is admissible. Smellie considered obesity a cause. His observations have not confirmed this statement.

6. It is probable that the duration of labor is shorter in cases where the appearance of pains is delayed for sometime after the membranes are ruptured.

7. The proper plan of treatment, as given by Smellie, McClintock, Bard, Denman and Dewees, and corroborated by Dr. Kemper's experience, is rest, if necessary in a recumbent posture, and patience. All efforts to excite labor-pains are hurtful, meddlesome and mischievous. Wait for pains, and treat the case on general principles !

8. Finally, that the fear of delay and danger in this class of cases—the classical "dry labor"—promulgated by our early obstetrical fathers, and indorsed by successive authors generally, is based on a merest spark of truth, and is one of those medical traditions that experience shows to be overestimated, and, to a large degree apocryphal.—*Louisville Medical News.*

# MINUTES

OF THE

# THIRTY-SECOND ANNUAL SESSION

OF THE

# MEDICAL SOCIETY OF NORTH CAROLINA.

### FIRST DAY—MORNING SESSION.

DURHAM, N. C., May 19, 1885.

The Medical Society of North Carolina met in annual session in Stokes' Hall, pursuant to the resolution of adjournment at the last meeting, Dr. W. C. McDuffie, the President in the chair.

The Convention was called to order by the chairman of the Committee of Arrangements.

The opening prayer was offered by Rev. W. S. Davis, of the M. E. Church.

Dr. A. G. Carr, chairman of the Local Committee of Arrangements, introduced to the Convention Mr. James S. Manning, whose address of welcome on behalf of the people of Durham was listened to with appreciative enthusiasm. The following is a copy of the address ;

*Mr. President and gentlemen of the State Medical Society* :—It is my pleasure to welcome you to the town of Durham in the name of our corporation and our people. We are sensible, gentlemen, that you confer upon us distinction by holding your annual Convention here. We honor the purpose of your Society. The people of the State have regard for your efforts and bless you for the work you have accomplished. Your Society has already received the praise of popular approval. It has already received the sanction and protection of the strong arm ofthe law, and recently its effectiveness has been increased by legislative enactment. * * * Your field of labor is large—

coextensive with the pain and sufferings of humanity. Your purposes are commendable—to raise the standard of professional labor in the State, and to inspire the spirit of careful inquiry and communication in those subtle and mysterious things which ever aid in producing new pains and disease. Your duty is nobly to guard the life and health of our people from the trifling of men who seek to impose upon us the pleading of ignorance and fatal mistake.

Your profession, gentlemen, deserves well the merit of being regarded one of the three learned professions. I have always considered if there be one profession more than another that requires greater zeal, more skill, more unselfish devotion, it is the profession of medicine. The human organ with which it has to deal is so sensitive, so delicate, so complicated, its derangements so considerable, its idiosyncrasies so enormous, so concealed from the observation of man, that the greatest discrimination, the profoundest labor is required to determine the nature of the disease that is preying upon the life of its victim. Such being your purpose, we cannot but respect you. We know that the pessimistic philosopher may scorn, may undervalue you in his estimation, he may scorn the effort to lengthen the span of the human life, still the care of human suffering, the desire to protect life and health, will drown the scorn of his stagnant, unprogressive philosophy.

We bid you welcome to our town. We delight to extend to you the cordial invitation of our hospitality, and we wish during this Convention that your labors may produce to you the most satisfactory results. While you are here we wish you a pleasant visit. It will be our pride and our fondest pleasure to point out to you those industries that the thrift, and enterprise and energy of our people have established, and that have extended the reputation and name of Durham to wherever the foot of civilized man treads the earth.

Then, gentlemen, I bid you welcome to the town of Durham in the name of its corporation and its people.

President McDuffie appropriately acknowledged on behalf of the Society the hospitable invitation of the citizens of Durham, and returned thanks for the same.

Secretary Murphy called the roll of the Society and the following members responded :

Drs. J. B. Jones, R. B. Haywood, James B. Dunn, S. S. Satchwell, A. B. Pierce, H. W. Faison, J. J. Summerell, George A. Foote, Eugene Grissom, R. L. Payne, F. M. Rountree, Charles J. O'Hagan, J. W. Jones, John K. Ruffin, William R. Wood, Thomas F. Wood, G. G. Smith, H. T. Bahnson, R. F. Lewis, Willis Alston, W. J. H. Bellamy, George F. Lucas, W. T. Ennett, G. Gillett Thomas, Francis Duffy, A. G. Carr, J. M. Hadley, P. L. Murphy, Joseph Graham, A. A. Hill, L. J. Picöt, W. J. Cooke, W. H. Whitehead, W. C. McDuffie, A. V. Budd, George W. Long, R. H. Lewis, L. H. Hill, W. P. Mallett, J. R. McClelland, R. J. Noble, William H. H. Cobb, I. Wellington Faison, Hubert Haywood, C. E. Bradsher, W. P. Beall, N. McJohnston, J. T. Sledge, John Chapel Walton, Julian M. Baker, Thomas E. Anderson, J. McQ. Stansill, J L. Nicholson, C. M. Poole, George H. West, Thomas Hill, J. M. Eyle, J. A. Reagan, R. S. Baynes, S. H. Lyle, J. Anderson, Thos. M. Jordan, W. L. Hilliard, T. A. Crowell, R. L. Payne, W. D. Hilliard, W. L. Reagan, H. B. Weaver, John H. Williams J. R. Irwin, J. T. Strickland, J. B. Gunter, R. S. Young, C. F. Anderson, W. W. Faison, Isaac M. Taylor, William H. Bobbitt, B. L. Long, W. C. Whitfield, W. J. Jones, James A. Burroughs, John W. Long, J. H. Cook, G. T. Sikes, William B. Pritchard, John B. Beckwith, E. T. White, G. W. Purefoy, B. F. McMillan, J. E. Grimslye.

The President then announced the following committees:

Committee on Credentials—A. G. Carr, W. H. H. Cobb, H. B. Weaver.

Committee on Finance—Thomas Hill, R. F. Lewis, Jos. Graham.

Dr. Thomas F. Wood introduced the following resolution:

WHEREAS, It is desirable to make the requirements of membership in the Medical Society of North Carolina accord with the law enacted by the General Assembly of 1885, therefore be it

*Resolved*, That the following persons are eligible to membership in the Medical Society of North Carolina:

1st. All physicians in good standing who are graduates of regular medical colleges prior to January 1st, 1880.

2d. All physicians who began the practice of medicine previous to April 5th, 1859, and who produce testimonials of good standing and skill sufficient to satisfy the Committee on Credentials of this Society.

Secretary Murphy read communications from Dr. W. O. McDowell, chairman of Section on Materia Medica, regretting his inability to to be present; also from Dr. G. S. Floyd, chairman of Section on Diseases of Children, to the same effect.

On motion of Dr. G. G. Thomas, Dr. Charles T. Peckham, Surgeon United States Marine Hospital at Wilmington, North Carolina, was invited to a seat in the Convention, and to participate in the deliberations of the Society.

Dr. Peckham very gracefully acknowledged the courtesy of the Society.

Dr. Cobb, on behalf of the Committee on Credentials, made a partial report, recommending as eligible to membershp in the Society the following gentlemen :

F. J. Cooper, Hives; C. W. Sawyer, Elizabeth City; B. W. Hathaway, Edenton; W. E. Powell, Castalia; J. B. Carr, Old Sparta; J. P. Smallwood, Lewiston; R. A. Whitaker, Trenton; E. S. Ashe, Wadesboro; H. Willis, Summerfield; J. H. Baird, Briggsville; J. C. Whiteside, Morganton; J. E. Ragen, Alexander; J. Brank, Weaverville; L. M. Archey, Concord; C. E. Adams, Gastonia; P. J. Kluttz, Gold Hill; W. H. Wilson, Dallas; Samuel D. Booth, Oxford; Patrick Booth, Knap of Reeds; F. W. Hughes, Newbern; J. B. Powers, Wake Forest.

Dr. Thomas F. Wood moved that the address of the President be made the first order of business for the afternoon session after "Unfinished Business."

On motion of Dr. Murphy, the Society adjourned till 3 P. M.

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### FIRST DAY—AFTERNOON SESSION.

The Society was called to order at 3 o'clock.

The President asked for the supplemental report of the Committee on Credentials.

Dr. Carr made his report, as follows: S. B. Dew, S. L. Montgomery, J. S. Bell, J. A. Wise, J. C. Perry, A. C. Jordan, J. M. Faison.

Dr. Payne moved that a committee be appointed to award the prize and also to select a case of surgical instruments suitable for the award.

The President appointed on that committee Drs. T. F. Wood, H. T. Bahnson and T. E. Anderson.

The President announced as the next business in order the reports of chairmen of sections. By reason of the absence of chairmen of sections the reports were deferred.

Dr. Bahnson moved that the roll be called again.

Dr. Weaver moved that the order of business be the President's address.

The President then delivered his address, for which see Appendix.

Dr. Carr moved that the thanks of the Society be returned to the President for his address, and that a committee be appointed to carry out his suggestions therein contained.

The chair appointed on said committee Drs. Thomas F. Wood, W. H. Whitehead and H. B. Weaver.

The chairman of the Section on Materia Medica being absent, Dr. Thomas Hill read a communication on the "Hæmostatic Properties of Rag Weed"—*Ambrosia artimisiæfolia.* (See Appendix.)

By request of the President the Secretary read out the chairmen of sections.

The Secretary moved that the annual essay of Dr. Haywood be made the special order for to-morrow morning at 10 o'clock.

Dr. Payne moved that the reading of the "Prize Essay" be made the special order for to-morrow afternoon at 3 o'clock.

On motion, the Society then adjourned till Wednesday at 10 o'clock A. M.

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### SECOND DAY—MORNING SESSION.

WEDNESDAY, May 21, 1885.

The Society was called to order at 10 o'clock, pursuant to adjournment.

Dr. Carr reported from the Committee on Credentials as follows:

W. T. Spreill, T. R. Haring, J. B. H. Knight, W. H. Harrell, James MacHays, James F. McKay, George C. Cope, D. B. Reinhardt, Annie Lowrie Alexander, J. T. Nicholson, J. A. Hodges, D. N. Dalton.

Secretary Murphy read a communication from Dr. Hines regretting his inability, on account of sickness, to be present at the Convention.

On motion of Dr. J. W. Jones, the President declared the Society adjourned out of respect to the memory of Mrs. W. T. Blackwell.

Dr. Wood, through Dr. Bahnson, requested that the prize essay be handed to the committee as soon as possible.

The Society then adjourned in accordance with the motion.

After a recess of fifteen minutes, the Society was called to order by the President, who announced as the order of business the reading of Dr. Haywood's essay.

Dr. Haywood then entertained the attentive audience for an hour with an interesting and instructive address on "Micrococcus in Relation to Disease."

Dr. Bahnson moved that a vote of thanks be tendered Dr. Haywood for the pains and labor he has manifested in the preparation of his essay, and that it be referred to the Committee on Publication, which was adopted.

Secretary Murphy moved a suspension of business for ten minutes for members absent at roll call to come forward and report their presence to the Secretary.

Dr. A. G. Carr made an additional report of the Committee on Credentials as follows:

M. L. Hicks, Henry Sloan, J. H. Burton, D. B. Jordan, W. P. Kennedy and T. C. Bullock.

The President announced that the hour of conjoint session with the Board of Health had arrived—12 M.

Dr. Jones, President of the Board of Health, took his seat, and the conjoint meeting was called to order.

Dr. Jones then delivered his address. (See Appendix.)

Dr. Thomas F. Wood, Secretary of the Board of Health, read the resolutions of Drs. Satchwell and Jones introduced at the last meeting. He spoke of the arduous labor brought to bear by the committees appointed in accordance with these resolutions in getting passed by the last General Assembly a law so much in advance of anything we have heretofore had, that those who have been interested in the Board feel that they have made a great start in the business which had heretofore been entrusted to them without the money to carry it out. He then read by sections the amended act relating to the Board of Health, and referred particularly to those portions concerning the payment of the superintendents, and the fines imposed on superintendents for not making reports to the Secretary of the State Boarp He stated that a member of the Board was sent to the Convention of the State Boards of Health held in Washington, D. C., last December, where it was agreed to ask the Legislatures of our States to give a contingent appropriation for making prompt application of money for the isolation of any case of pestilential disease which may appear, particularly in the case of cholera. He read the minutes of the meeting of reorganization held at Raleigh, March 20–21. He said that the National Board of Health has offered to supply this Board, immediately on the appearance of any case of cholera or other infectious disease, with means for the isolation of the same—they to be reimbursed when this Board shall have obtained the money from the State treasury. He proposed that each county be called out in its alphabetical order, and if there be a Superintendent of Health or other representative of that county present, he be asked to give the standing of his county in relation to the Board of Health. About twenty-five counties were called in this manner with responses from some eight or ten.

Dr. Wood said if the superintendents cannot get full statistical reports from the county physicians, a report from the superintendents as to the condition of the jails, poor-houses and other public institutions, is very desirable.

On motion of Dr. Satchwell, the Society then adjourned till 2½ o'clock P. M.

### SECOND DAY—AFTERNOON SESSION.

Dr. Jones, President of the Board of Health, called the Society to order at 2½ o'clock.

By suggestion of Dr. Wood it was decided to correspond with the different counties instead of calling them in the meeting.

Dr. Wood said he was requested by the Board of Examiners to announce that there was a clerical error whereby one person reported as having passed his examination had failed to pass, and asked that their report be returned to them. So ordered by the President.

President Jones announced as next in order the election of two members to fill vacancies on the State Board of Health.

Dr. Thomas F. Wood was nominated to fill one of the vacancies, and on motion the Secretary was instructed to cast the vote of the Society for Dr. Wood.

The following nominations were then made to fill the remaining vacancy: By Dr. R. H. Lewis, Dr. W. D. Hilliard, of Asheville; seconded by Dr. Ennett. By Dr. Baker, Dr. Summerell, of Salisbury. By Dr. Ruffin, Dr. Satchwell, of Rocky Point.

By request of Dr. Satchwell Dr. Ruffin withdrew his nomination.

Dr. Summerell withdrew in favor of Dr. Hilliard.

On motion of Dr. Lewis the Secretary was instructed to cast the vote of the Society for Dr. Hilliard.

Dr. Jones requested the members of the Board to remain in the hall after Dr. Picöt's address.

The conjoint session was then declared adjourned.

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The North Carolina Medical Society was then called to order by the President.

Dr. Lewis offered a resolution, as follows:

*Resolved,* That the members of the Nominating Committee be elected one from each Congressional District by the members present on the night of the first day.

Dr. Faison stated that the resolution of Dr. Lewis involved a change in the Constitution; but reminded the Society that at the last meeting he offered a resolution to increase the number on the Nominating Committee to nine.

Dr. O'Hagan thought that as the Society had been getting on, and smoothly, for nearly twenty years, it were best to "let well enough alone." He did not object to distributing the committee throughout the State, but was afraid it was liable to some objections on account of the size of the State and the consequent trouble in members always being present on the first day.

The chair overruled the point of order taken, that Dr. Lewis' resolution should lay over for one year.

Dr. Lewis modified his resolution by striking out "first day" and inserting "second day," and adding "and, in the absence of any member from any district, the vacancy shall be filled by the President.

The resolution as modified being put to a vote, was adopted.

The report of the Finance Committee was then read. (See Appendix.)

Supplementary to the report Dr. Graham said he found among the accounts to be audited bills for publishing the meeting of the Society, and suggested that the committee instruct the Secretary not to publish the meeting of the Society in any paper which charges for the same. They ought to publish it as a matter of news.

Secretary Murphy read the duties of the Secretary as set forth in the Constitution, and added that as it was impossible for him to reach, through the ordinary records of the Society, many who would be glad to know of the time and place of the meeting of the Society, he thought best to advertise it.

Dr. Graham denied any intention on the part of the committee to criticize the action of the Secretary, but had reference to the future.

Dr. O'Hagan thought the meetings of the Society ought to be spread as far as possible, and that there is no other way to do so, and that as the treasury of the North Carolina Medical Society is in a healthy condition, the Society does not begrudge the outlay of $25 or $30 to make its meetings known.

The Committee on Credentials reported on the names of Drs. N. D. York and W. B. Small.

Dr. Bobbitt read a paper of personal privilege.

Dr. Bahnson rose to a point of order, saying the reading of the paper was out of order.

The chair reserved its decision till Dr. Bobbitt had stated his position.

After the reading of the paper, Dr. G. G. Thomas thought he was forced to rise to a point of order. There was no feeling in the matter for either party, but this case had already been before the Board of Censors and finally settled by them, and this Society has no control in the matter.

Dr. Hill could not see why Dr. Thomas could not make this in order. Dr. Bobbitt had been refused consultation by the Raleigh Academy of Medicine, and now only asks that the Society endorse him as a member in good standing.

Dr. Bahnson thought his name being on the roll was sufficient endorsement for his good standing.

Dr. Foote said the Board of Censors had done nothing in the matter, but declined to have anything to do with it. He thought Dr. Bobbitt's position was, whether or not he should suffer the ban of the Academy of Medicine. He wanted to know if he had violated the Code of Ethics. If not, he wanted their endorsement; if he has, he is willing to submit to their condemnation.

The chair said the question before the house was a point of order, and remarks should be germane to that subject.

Dr. Foote said his remarks would lead him to that subject, viz: has a local organization a right to do that which this Society says is wrong, and thereby misplace before the public a member of this Society?

The chair stated that so far as he ruled in the matter, he did not think a question could come up before this Society twelve months after it had been laid before the State Medical Society, and for that reason thought the point of order of Dr. Thomas well taken, unless Dr. Bobbitt desired to bring it in another shape. He understood from his reading that it was the same case he presented at the 1884 meeting in Raleigh.

Dr. Bobbitt said he only wished his status in this Society defined, and rehearsed the events that the members might know his position.

Dr. Payne thought the Code of Ethics required a practitioner to conform to the local rates adopted in his section.

Dr. John W. Long thought the Society and the Raleigh Academy of Medicine are two distinct associations, and have nothing to do with each other.

Dr. Foote suggested that a committee of three or five be appointed to inquire into the matter.

Dr. Eugene Grissom thought that any action whatever upon this question would be an act of supererogation. This Society has nothing to do with local matters. As to the status of Dr. Bobbitt, his name on the list unimpeached is sufficient vindication of his status. He said this Society had adopted for its code the code of the American Medical Association, and read an extract from Section 7 of that code bearing on the point. He thought this was a question out of the jurisdiction of this Society, and moved the indefinite postponement of the matter, which motion was lost.

Dr. Cobb thought the question should be settled between the Raleigh Academy of Medicine and Dr. Bobbitt.

Dr. Satchwell moved that a committee of —— be appointed to investigate and report at this annual meeting on the standing of Dr. Bobbitt.

Dr. Graham thought the motion entirely unnecessary.

Dr. Thomas thought that the committee should be none else than the Board of Censors.

The resolution of Dr. Satchwell being put to the house, was carried by a vote of 33 to 31.

The chair appointed on said committee Drs. Payne, Satchwell, Graham and J. W. Jones.

The Committee on Credentials reported on the name of Dr. Shubrick.

Dr. Foote said he was requested by Dr. ———— to pay his dues to the Society. He had been dropped from the roll in 1880 for non-payment of dues, and they amounted up to this time to $17, which he was willing to pay.

Dr. Faison thought according to the Constitution he should be admitted for the regular fee of $5, after paying the amount due at the time his name was dropped, and made a motion to that effect.

Dr. Payne thought he should pay the whole $17.

Dr. Faison's motion was carried.

Dr. Thomas F. Wood read a telegram from the President of the American Medical Association, stating there was a vacancy in the Committee on International Medical Congress of the American Medical Association, and asking the Society to make a nomination.

Dr. O'Hagan, after giving an account of the meeting of the American Medical Association at New Orleans, which he attended, nominated to fill the vacancy mentioned above Dr. Thomas F. Wood, of Wilmington, who was unanimously elected.

The chair appointed on the Committee on Nominations Drs. A. G. Carr, C. J. O'Hagan, W. D. Hilliard, J. R. McClelland, R. F. Lewis, R. L. Payne, H. W. Faison, T. E. Anderson.

The Committee on President's Address recommended that a section be formed on Forensic Medicine, and that the Code of Ethics of the American Medical Association be printed in the Transactions of the Society for 1885.

The chair appointed as Obituary Committee Drs. Cobb, Payne and J. W. Jones.

Dr. Wood offered the following resolution:

*Resolved*, That on and after this date, this Society deems it out of its province to attempt to regulate fees.

Dr. Pierce thought the resolution unnecessary, as the Society has never attempted or pretended to regulate fees, and moved the indefinite postponement of the resolution.

Dr. Wood's resolution was lost.

The chair announced that Dr. Picöt would deliver his oration on this (Wednesday) evening, at 8½ o'clock, in Stokes' Hall.

Dr. Carr, chairman of the Committee on Nominations, announced a meeting of that committee immediately after adjournment.

The chair asked for the report on prize essays, made special order for 3 o'clock.

Dr. Bahnson stated that only two essays had been received by the committee, and said if any more were to be handed in the committee would like to have them at once.

The chair postponed the report on prize essays till to-morrow.

Secretary Murphy read a communication from the Association of American Superintendents of Insane Asylums relative to the immigration of the defective classes.

## CONVERSATIONAL.

### *Calcified Cord and Placenta.*

Dr. H. W. Faison reported a case of calcification of the umbilical cord occurring in his practice.

Dr. Cook, of Leasburg, exhibited specimen of calcarious degeneration of the placenta.

The Committee on Credentials reported on the name of Dr. W. S. Monroe, of Montgomery.

The President set to-morrow morning, the 21st, for hearing the report of the chairman of the Section on Gynæcology and Obstetrics.

Dr. S. S. Satchwell, chairman of the Section on "The Practice of Medicine," presented an elaborate paper, which, on motion, was read by title, and referred to the Committee on Publication.

Dr. L. Julien Picöt delivered his oration entitled "Shall Women Practice Medicine?" in Stokes' Hall, Wednesday evening at 8½ o'clock, to a large and very attentive audience. It was a masterly effort, and the pleasing oratory of the speaker added to the beauty of his rhetoric and the force of his argument. At the close of the oration, on motion of Dr. Pierce, a copy was asked for to be placed in the published minutes of the Association.

The President then announced that the Committee on Prize Essays had decided to award the prize case of instruments to Dr. R. S. Young, of Concord, and, calling the gentleman to the stage, presented him with the case, saying:

"No labor has been rewarded so pleasantly as I think, sir, you will appreciate this. It is the result of your intellectual effort, which we are glad to say we see in the younger members of our association. The hand that wielded the pen that won the prize will not lose its cunning in handling the instruments."

The Society adjourned till Thursday morning at 9 o'clock.

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### THIRD DAY—MORNING SESSION.

THURSDAY, May 21, 1885.

The meeting was called to order by the President at 9 o'clock.

Prayer was offered by Rev. Mr. Darnall.

Dr. Walter C. Murphy tendered his resignation as Secretary of the Society.

Dr. Satchwell read an obituary paper on the recently deceased members of the Association, which, on motion of Dr. Carr, was referred to the Obituary Committee.

The Committee on Credentials reported on the following names: Drs. B. G. Webb, E. P. Williams, D. C. Parriss, J. W. Littleton. D. T. Tayloe, J. J. Coleman, W. T. Pate, F. P. Cunningham, F. W. Ritter, G. B. Nance, M. T. Fox.

The chair appointed the following as chairmen of Sections:

Medical Jurisprudence.—J. D. Roberts, Goldsboro.
Surgery—William B. Pritchard, Faison.
Obstetrics and Gynæcology—C. M. Pool, Rowan.
Pathology—J. A. Hodges, Fayetteville.
Materia Medica—J. L. Grimsley, Snow Hill.
Practice of Medicine—.J L. McMillan, Red Springs.
Diseases of Children—J. B. Powers, Wake Forest.

The Committee on Credentials reported on the names of D. G. Caldwell.

The chair announced as next in order the report of the chairman of Section on Obstetrics and Gynæcology.

Dr. Weaver then read an extended and ably prepared paper on those subjects.

The committee appointed to investigate the status of Dr. Wm. Bobbitt in the North Carolina Medical Society made the following report:

"We, your committee appointed to inquire into and define the status of Dr. Wm. H. Bobbitt in the North Carolina Medical

Society, beg to report that we find nothing against the personal or professional character of Dr. Bobbitt, and that he is entitled to all the privileges and courtesies of a member of this Society.

"Respectfully submitted,
"S. S. SATCHWELL, Chairman,
"J. W. JONES,
"JOS. GRAHAM."

Dr. Grissom asked the chairman if the report was intended as a reflection, either directly or indirectly, upon the Raleigh Academy of Medicine.

Dr. Jos. Graham answered, as a member of the committee, that he wished this report to be distinctly understood as in no way reflecting upon the Raleigh Academy of Medicine. It merely defines the status of Dr. Bobbitt in this Society.

Dr. Grissom moved that the annual oration before the Society and public last evening, by Dr. L. Julien Picöt, be referred to the Committee on Publication, with instructions to publish it in the Transactions. Dr. Grissom remarked that the address contained much of beauty and elevated thought, and expressed in pure and elegant English. It was, in his opinion, in many respects, among the best addresses delivered before the Society on similar occasions for many years, and that its ideas commended themselves to the Society and to the profession.

The motion was unanimously adopted.

On motion of Dr. Cobb, it was decided to pay the phonographer $15 for his services.

Dr. S. D. Booth offered the following resolutions:

*Resolved*, That all regular meetings of the Medical Association of North Carolina be held in the city of Raleigh.

*Resolved*, That a tax of $1 *per capita* be levied upon the members of this Society, which shall be collected each year in addition to the regular dues, and the amount so raised shall be set apart as a sinking fund.

*Resolved*, That the said fund shall be put into the hands of a committee which shall be selected for that purpose, and this committee shall so invest or lend the money so raised as will continually draw a good interest.

*Resolved*, That when a sufficient sum shall have been raised, that this Association direct such a building to be erected in the city of Raleigh as will be a suitable depository for interesting and useful articles pertaining to medicine and surgery, and that the museum and library shall always be under the immediate direction of the officers of the Medical Association.

Dr. Bahnson moved to lay Dr. Booth's resolution on the table, but the chair ruled that, according to the Constitution, it must lay over to be acted upon at the next meeting.

Dr. Thomas F. Wood offered his resignation as chairman of the Board of Censors, thinking the office incompatible with his position of editor of the JOURNAL.

Dr. Jones explained why it was desirable that the Board should reside in the same town, when, on the nomination by Dr. Bahnson, Dr. George G. Thomas was elected to fill the place vacated by Dr. Wood.

The Committee on Credentials made the following report: J. M. Emmett, H. W. Dorsett, Gilbert McLeod, J. J. Harrell, Zeno Brown, K. Leggett.

Dr. Ennett presented a paper entitled "Reduction of Dislocation of the Femur," which, upon motion, was read by title and referred to the Committee on Publication.

The Committee on Nominations reported as follows:

President—Joseph Graham, Charlotte.

Vice-Presidents—H. T. Bahnson, Salem; L. J. Picōt, Littleton; J. L. McMillan, Red Springs; W. W. Faison, Goldsborough.

Secretary—Julian M. Baker, Tarborough.

Treasurer—R. Lee Payne, Jr., Lexington.

Orator—George W. Long, Graham.

Essayist—R. S. Young, Concord.

Committee on Publication—Thomas F. Wood and George G. Thomas, Wilmington; W. T. Ennett, Burgaw; J. M. Baker, Tarborough.

Board of Censors—W. J. Love, Geo. G. Thomas, W. W. Lane, Wilmington.

Delegates to American Medical Association—I. W. Faison, T. F. Wood, Eugene Grissom, W. W. Lane, J. McDonald, S. H. Lyle, S. W. Stevenson, J. B. Gunter, W. P. Beall, J. L. Nicholson, D. B. McNeil, F. M. Rountree.

Delegates to Virginia Medical Society—W. H. Whitehead, N. M. Johnson, George A. Foote.

Delegates to South Carolina Medical Society—G. G. Smith, S. B. Jones, W. L. Crump.

Delegates to American Public Health Association—R. H. Lewis, W. H. H. Cobb.

Dr. A. G. Carr offered the following resolution, which was adopted:

*Resolved*, That the Medical Society of North Carolina return its thanks to Dr. Walter C. Murphy, our retiring Secretary, for the efficient manner in which he has filled the office, and regrets that his private engagements deprive the Society of his valuable services.

Dr. Harriss read a paper prepared by Prof. Holmes, of the University of North Carolina, exhibiting a specimen of petrified body, adding some remarks of his own in regard thereto.

The paper was referred to the Committee on Publication.

Dr. Harriss exhibited a post mortem specimen of bone removed from the spleen; also a lot of No. 5 shot removed from the vermiform appendix in another post mortem case. He remarked that as regards the specimen from spleen, this was the only case reported in Reynold's system of medicine from this country.

Dr. Harriss made a short report on Hydrochlorate of Cocaine, reporting two cases of successful cataract operations under its influence as perfectly painless.

Dr. Booth reported a case of vaginismus relieved by a vaginal injection of 4 per cent. solution of cocaine; and also found it useful in gonorrhœa.

Dr. Harriss reported a case of abscess of stump, in which hydrochlorate of cocaine injected into the cavity relieved pain so as to allow exploration. In extraction of teeth he did not find it so satisfactory.

Drs. O'Hagan and Payne both made remarks on the same subject.

Dr. Thomas F. Wood said he used cocaine in 10 per cent. solution with satisfactory results in urethral surgery, and in operations for stricture. In ear practice, he said, the results are variable. It is especially useful in removing missiles from the eye.

Dr. Baker read a paper on Aphasia.

Dr. Carr moved that the thanks of the Society be tendered Dr. Baker for his excellent paper, and that it be referred to the Committee on Publication. So referred.

Dr. Carr made a few remarks on brain injuries. He made mention of two or three cases of persons receiving apparently fatal injuries to the brain, but in which skillful treatment brought about a cure. In the case of a child run over by a wagon, the skull was crushed, and the brain, or portions of it, had oozed out on the cloth in which the child's head was wrapped. He found some portions of the skull overiding others. He raised the sunken portions until in their natural position, after which the child got well without any untoward symptoms.

Dr. Hayes introduced the following resolution :

*Resolved*, That a vote of thanks is hereby tendered the citizens of Durham and members of the North Carolina Medical Association for the hearty welcome and hospitable treatment that were received at their hands during our brief stay in their midst ; and especially to Dr. A. G. Carr, we return thanks for his never-tiring assiduity in his attention to the wants and conveniences of every member of our Association.

Dr. Carr disagreed with the second part of the resolution, and thought he ought not to be singled out as doing more than others, and asked that it be stricken out.

Dr. Hayes would not accept the change, and the resolution as introduced was adopted.

Dr. Payne reported a case of lateral lithotomy for the removal of a stone weighing 2½ ounces from a child eleven years old.

Dr. J. W. Long reported a case of dry gangrene in a child which its former physician said had had diphtheria about three weeks previous. Dry gangrene formed very rapidly, having, in three or four days from the start, advanced to the knee.. There was no line of demarkation, and while waiting for it to develope the child took pneumonia and died. The child had no heart trouble, and he thinks had not had diphtheria, as he saw no evidence of it, and there was none in that vicinity at the time.

Dr. Thomas F. Wood said that, in lieu of a syringe, he had found a common sewing-machine oil-can very useful in pumping the oil into the urethra, in operations for strictures, and found in his experience in practising among the very poor where instruments were not at hand and not likely to be purchased, that the employment of just such familiar articles to be found in a household, often enabled the physician to render immediate service of some value. He had also used the small oil-can for syringing the bladder. Some of them were made flat, and were more convenient for carrying in the surgical bag than the conical ones.

Dr. Baker read a letter from Dr. D. N. Patterson, regretting his inability to attend the Convention.

Dr. Pierce mentioned the recovery of a child nine months old from paralysis of the left side, arm and breast, treated on doses of 6 or 8 grains of calomel, with a little milk and water warmed; and gave it also a solution of bromide of potash. The child recovered from paralysis entirely in three or four days. During the winter the child was taken in the same way, and he being out of town, another physician was called in, and the child died within a few hours. He did not use mercurials, but used bromide of potash, and gave it a warm bath. This produced temporary effect, which soon wore off. He mentioned this to show that excessive doses of calomel could be used in the case of children.

Dr. Carr cited several instances to show how generally heart-disease follows rheumatism in children.

Dr. J. W. Harriss mentioned a case caused by a woman throwing a pair of scissors at her son. The point struck him in the abdomen and must have punctured the gall-bladder, his shirt being covered with a fluid which must have been bile. Looking up authorities in this case, he found wounds in the gall-bladder classified as invariably fatal. This fellow, however, got well. A little abscess formed there, but seemed to be entirely superficial. Temperature never exceeded 102°.

On motion, the meeting then adjourned until 2½ o'clock this afternoon.

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## THIRD DAY—AFTERNOON SESSION.

THURSDAY, May 21, 1885.

The meeting was called to order at 3 o'clock.

Dr. W. R. Wood offered the following preamble and resolutions, which were adopted:

WHEREAS, The increasing demand of our people for a higher order of education in all the departments of knowledge render action in the premises on the part of this Society not only necessary, but imperative; therefore be it

*Resolved*, That it is the deliberate opinion of this body that the want of proper facilities for acquiring a more extended knowledge of the medical sciences by the young men of the State demand that a Medical Department should be organized at the University of North Carolina, as nearly as practicable on the same basis as that of the Medical Department of the University of Virginia.

2d. That a committee of seven medical gentlemen, members of this Society, of whom the President shall be one, be appointed by the President to consider the advantages and feasibility of such a measure, and report the result of their deliberations at the next annual meeting of the Society, to the end that the matter may be properly laid before the Legislature at its next biennial session.

The chair appointed the following members on the committee suggested in Dr. Wood's resolution: Joseph Graham, W. R. Wood, A. G. Carr, H. T. Bahnson, C. J. O'Hagan, T. D. Haigh, Thomas F. Wood, R. H. Lewis.

The following resolution, as offered by Dr. Julian M. Baker and amended by Dr. A. G. Carr, was adopted:

*Resolved*, That this Society offer the following prizes to be competed for at its next session on the conditions hereinafter named: For the best essay on surgery, a case of instruments valued at $25. For the best essay on a subject pertaining to Obstetrics or Gynæcology, a case of obstetrical instruments valued at $25. For the best essay on a subject pertaining to the Practice of Medicine, $25 in currency.

All essays are to be forwarded to the chairman of the committee, to be appointed at this meeting, one week prior to the next meeting of the Society. Said committee to act as judges of merit and report on the second day of the session, All such essays as the committee deem worthy, to be published in the Transactions of the Society. They are to be handed in under assumed names.

The chair appointed on the Committee on Prize Essays Drs. R. L. Payne, Geo. G. Thomas, P. E. Hines.

Dr. Whitfield reported a case of a lady over 23 years of age cutting her lower teeth on the right side. He noticed in extracting a tooth that the root was partially absorbed, and the second tooth took its place in about two weeks. He wanted to know if anyone had seen such a case.

Dr. Long said he knew a man forty years old who had not cut his.

Dr. Satchwell said there was a paper read this morning from Prof. Holmes, and moved to have it referred to the Committee on Publication, as it was not done this morning. So referred upon vote of the house.

Dr. Thomas F. Wood gave some observations he had been making as to

### TUBERCULOSIS AMONG DOMESTICATED FOWLS.

He said: Microscopists are making investigations into the pathology of tuberculosis by studying the life-history of the lower organisms, and were making what appeared to non-experts to be wonderful advancement in knowledge. In this department of learning, though, it would probably not be the privilege of many of us to join as workers, and we would content ourselves with the finished work as it comes to us from the pathological laboratories. But there is another side of the investigation in which we could join most effectually, namely, in the clinical study of phthisis as it relates to man and the domesticated animals. The special point which now interests us is the contagiousness of phthisis. How far are we justified in giving credence to the doctrine of the contagiousness of phthisis? Are we to regard the bacilli found in tuberculous matter the causative agency, and are they always present? At any rate, while the laboratory pathologists are busy with their work, we must not be idle.

At this late hour in the session he did not especially care to give publicity to a study in animal pathology he had just began, but it might incite others who had the same means at their command to pursue the study during the coming year.

He read from his note-book:

Capt. Buncker, a patient afflicted with pulmonary phthisis for a year or so. He is a learned German, with cultivated power of observation. He spends most of his time in the early spring on the piazza in the sun. He expectorates in the yard in front of the piazza, at random. He has several domesticated fowls that feed about in the yard. He noticed that they greedily devoured expectorated sputa, and especially one lusty cock, got the largest share. This fowl was really "cock of the walk," and had vanquished his antagonists in such a way as to establish his supremacy. His voice was strong and loud. After Capt. Buncker's attention had been attracted to him for his pugnacious qualities, he noticed with regret that the animal's voice became more husky, and he finally became voiceless. He would flap his wings and stretch his mouth open, but there was little audible sound. Finally his feathers became less glossy, his wings drooped, his strength failed, and, after becoming quite emaciated and wretched, he died. The cock had what was apparently analogous to laryngeal phthisis. Some hens in the same brood are since affected and are under observation.

Dr. Wood said he knew it was premature to present such preliminary study, but he did not expect it to be barren of results. He had communicated his observations to Dr. D. E. Salmon, director of the Bureau of Animal Industry, and he was kind enough to quote some observations bearing upon the same experience :*

KOCH : *Mittheil. a. d. K. Gesundheit's. Amt. II.* 1884, *P.* 41.

Tuberculosis in hens appears frequently endemically, destroying not infrequently all fowls of a poultry yard. In the intestine and liver of diseased animals are found, more or less irregular at times, quite smooth tumors, ranging from size of pea to walnut—in one case even to the size of a small apple. These tumors are tough, whitisn and yellowish in spots, on section the yellowish spots in part calcified. In one case the marrow of the long bones contained tubercles as large as hemp seed. These were rich in tubercle-bacilli, most numerous around calcified portions. In the nodules, situated in intestinal walls, the bacilli could be traced as far as villi. This points to infection from intestine, as the lungs were only slightly implicated. It might also be inferred from this that bacilli may escape from intestine with féces, the latter acting as foci of infection.

HENRY : *Recueil de Méd. Vét.* 1884. *P.* 233.

Reports a case of generalized tuberculosis in a hen. Great emaciation and feebleness preceded death. On post mortem a large tumor was found in the abdominal cavity attached to the terminal portion of the intestine. Its interior was made up of numerous cavities, with partition in part destroyed, containing a grayish liquid of a disagreeable odor. Another tumor near the kidneys, liver and lungs, being implicated. The presence of bacilli was not determined.

CORNIL ET MEGNIN : *Tuberculose et Diphthérie des Gallinacéo in Compt. Reud. Soc. Biol.* 1884. *P.* 617.

Tuberculosis is very common among the fowl, the turkey, the pheasant, the partridge and the pigeon. Its chief seat is the liver, the spleen and the peritoneum.

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*The above abstracts were only referred to in outline in Dr. Wood's statement, but were considered of enough interest to be given now in full.

In the liver of a hen and a pheasant the tubercles appeared at the surface up to the size of a hemp seed, either homogeneous and of a semi-transparent grayish, yellowish color, or filled with very minute opaque grains. Bacilli found chiefly in ovoid or round cells, with one or two nuclei. These cells (10–15 m.) were situated in the meshes of a reticulated fibrillar net-work, at times in vessels. No hepatic cells to be seen. (Recent.)

Calcarious yellowish grains observed in the tuberculous lesions. Bacilli so numerous as to be seen with the naked eye as a colored map in stained sections.

RIBRERT: *Deutsche Med. Wachenschrift.* 1883. *P.* 413.

Has seen in four cases an abundance of tubercle-bacilli within the tuberculous nodules of intestine and liver. He found these nodules quite dense, projecting from the intestinal walls into the peritoneal cavity covered by the smooth serous membrane. In some cases a cicatrix on the mucous surface corresponded to the nodule in the wall of the intestine. In nodules scarcely distinguishable with the naked eye, the bacilli were in the centre with a zone of inflammatory infiltration. In larger nodules the centre was necrosed and surrounded by a zone free from bacilli. Outside of this they appeared abundantly. No giant-cells were observed.

In one case the bacilli were so numerous that in the stained section their map could be distinguished by the color with the naked eye.

JOHNE: *Deutsche Ztschr f. Thiermedizin.* 1884. *X. P.* 155.

Cites an epidemic among fowls of a poultry-yard lasting over a year. Many fowls, chiefly young, died of general debility, after great emaciation and weakness. On post mortem the livers and intestines showed extensive tuberculous lesions in which the bacilli could be demonstrated. The cause of the epidemic was supposed to be a young lady who died of tuberculosis at about the time of the epidemic. She had been in the habit of feeding the fowls, especially chewing meat for them. The sputum was habitually poured on the manure pile frequented by the fowls.

Communication of M. Nocard to *Societé Centrale de Médecine Vétérienne.* Meeting of the 12th February, 1885:

A farmer near the Veterinary School possessed a superb barnyard cock. For two or three months he had lost successively a dozen fowls, young or old, that had died in a state of extreme emaciation.

He had been able to make autopsies of the last victims, and in all he found formidable tuberculous lesions of the abdomen. The liver always proved to be the first and the most profoundly attacked, then, in the order of intensity, the intestines, the kidneys, the glands, the ovaries, and, in the last place, with the very rare lesions of the lungs. In all the diseased organs were found prodigious numbers, with all the morphologic and histo-chemical characters of Koch's bacilli.

How is this disease developed in the fowl? The following is what the investigation of the question establishes:

Among the laborers on the farm there is one who for a long time showed signs of tuberculosis: voice, cough, expectoration, hæmoptisis, night sweats, nothing is lacking in the picture, not even the presence of characteristic bacilli in the products of expectoration. Little by little this unfortunate man became incapable of doing his ordinary work, and, that he might not be deprived of all means of gaining his living, the farmer entrusted the fowls to his care; during five or six months he filled this *function*—easy place; three months elapsed before the first fowl succumbed to tuberculosis. The progress of the contagion is very simple. You know how voracious chickens are; from the time one lets anything drop they eagerly swallow it; as soon as one spits on the ground, they dispute for the meagre morsel.

Our poor sick man, who spat much, laughingly told how the fowls appeared to consider this supplement to their rations very dainty. It is not necessary to seek elsewhere for the way which the contagion invaded the animals of this poultry-yard.

The Committee on Credentials reported on S. T. Nicholson, David Lucas, A. G. Person, A. A. Maynard, P. R. Hardie, W. P. Galey, M. Bolton, W. E. Turlington, C. G. Nichols, C. S. Pratt, A. P. Keever, James M. O'Kelly, R. B. Ellis, J. W. McGhee, J. L. McMillan, W. . Pharr, W. B. Crisp.

On motion of Dr. Ennett, the Convention adjourned, to meet in Newbern on the third Wednesday in May, 1886.

W. C. McDuffie, M.D., President.

Walter C. Murphy, M.D., Secretary.

# REPORT OF THE BOARD OF MEDICAL EXAMINERS.

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The Board of Medical Examiners of North Carolina met in Durham at 8 A. M., May 18th, and continued in session, with but slight intermissions during the morning hours, until 10 A. M. Friday, 22d inst.

One hundred and one applicants appeared for examination, of whom 84 were duly licensed, after giving satisfactory evidence of competency and good moral character. The following applicants passed their examination successfully:

Drs. James Allison Hodges, Fayetteville.
" John Hannibal Baird, Briggsville.
" John Morehead Emmitt, Hope Mills.
" Leona Marion Archey, Concord.
" Archibald Currie Jordan, Caldwell Institute.
" Joseph Ira Coleman, Hurdle's Mills.
" Charles Gettis Nichols, Mount Tirzah.
" William Rankin Goley, Long Branch.
" Furman Paine Covington, Norwood.
" John Washington Littleton, Albemarle.
" Daniel Greenlee Caldwell, Charlotte.
" Harrison Wood Dorsett, Bethany.
" Albert A. Hill, Lexington.
" Addison Garland Person, Fremont.
" Millard Fillmore Fox, Greensboro.
" Thomas Benton Ashbuy, Mount Airy.
" Alfred Sidney Atwater, Rialto.
" Robert Lindsay Mullen, Ringwood.
" James Andy Wise, Red Mountain.
" Francis Wade Hughes, Newberne.
" Kenelm Leggett, Palmyra.
" Joseph Irving Rogers, Alexander.
" Joseph Brank, Weaverville.
" William Pendleton Kennedy, Warsaw.
" John Benjamin Powers, Wake Forest.
" Thomas Cleaborn Bullock, Blockersville.
" William Theophilus Spruill, Youngsville.
" Thomas Renny Harding, Huntsville.
" Josiah Burke H. Knight, Eagle Rock.

Drs. William Henry Harrell, Williamston.
" James Mackintosh Hays, Wilton.
" Joseph Foy McKay, Averysboro.
" Samuel Barnes Dew, Wilson.
" George Columbus Cope, Heilig's Mills.
" Dabney Belvin Reinhart, Thomasville.
" Annie Lowrie Alexander, Cowan's Ford.
" Samuel Timothy Nicholson, Washington.
" John Thorne Nicholson, Bath.
" David Nicholas Dalton, Winston.
" Samuel Lewis Montgomery, Monroe.
" James Sylvanus Bell, Matthews.
" William Watson Pharr, Query's.
" David Lucas, Enfield.
" James Clifford Perry, Newbegun.
" Gilbert McLeod, Morven.
" John Miller Faison, Faison's.
" Joseph Calloway Whiteside, Bridgewater.
" William Hill Wilson, Dallas.
" Charles Edward Adams, Gastonia.
" John Cooper, Hives.
" Charles William Sawyer, Elizabeth City.
" Burton Walker Hathaway, Edenton.
" Edwin Boushall Ferebee, Belcross.
" William Edgar Powell, Castona.
" John Buxton Carr, Old Sparta.
" John Pugh Smallwood, Lewiston.
" Romulus Alonzo Whitaker, Trenton.
" Adolphus Pinckney Keever, Keeversville.
" Edmund Frederick Ashe, Wadesboro.
" Hugh Willis, Summerfield.
" Paul Joseph Kluttz, Gold Hill.
" Samuel David Booth, Oxford.
" Patrick Booth, Knap of Reeds.
" Benjamin Griswold Webb, Asheville.
" Maltis Laudric Hicks, Wakefield.
" Henry Sloan, Lisbon.
" James Horton Benton, Newton Grove.
" David Bryan Jordan, Grantham's Store.

Drs. Thomas Newby White, Belvidere.
" James Jacob Harrell, Gulf.
" Zeno Brown, Greenville.
" William Beauregard Crisp, Ceffo.
" William Thoroughgood Pate, Laurel Hill.
" Atlas Allen Maynard, Clayton.
" P. R. Hardee, Durham.
" Frederick William Ritter, Shiloh.
" David Thomas Tayloe, Washington.
" George Benton Nance, Olive Branch.
" Egbert Perses Williams, Cedar Creek.
" Mayland Bolton, Rich Square.
" David Clingman Parris, Hillsboro.
" Henry Harding Dodson, Milton.
" Willis Edgar Turlington, Elevation.
" Charles Sumner Pratt, Raleigh.

Temporary licenses, to hold good only till the next meeting of the Board of Examiners, were issued as follows:

Drs. Kenneth McKenzy Clark, Kittrell.
" Julius Jasper Hilton, Hillsdale.
" Willis Jasper Vestal, Tyro Shops.
" James Munroe Raby, Roxobel.

One was allowed to withdraw, and twelve were rejected.

A resolution of the Board provides that an applicant for temporary license can appear before one member of the Board, and, after submitting to a written examination upon all the branches, said examination to be submitted to another member, and, if satisfactory to both, a temporary license will be issued.

The opinion of the Attorney General not being adverse to the propriety of it, the Board resolved to hold a meeting in August of this year, to facilitate and encourage the further examination of applicants for the license.

W. J. H. Bellamy, M.D.,
Secretary Board of Medical Examiners of N. C.

# PRELIMINARY MEETING OF THE STATE BOARD OF HEALTH.

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DURHAM, N. C., May 19, 1885.

A preliminary meeting of the State Board of Health was held in the Hotel Claiborn on the evening of May 19th, 1885. Present, Dr. J. W. Jones, President; Dr. Thomas F. Wood, Secretary; Drs. Lyle and Satchwell, and Prof. Simmons.

The reading of the minutes of the last meeting were dispensed with as the record book was inaccessible.

Dr. Wood suggested to mark out a course of business for the conjoint session of Wednesday.

Dr. Wood mentioned two letters received by him inviting the Board to visit the institutions and examine them. One from the Institution for the Deaf and Dumb and the Blind, and the other from Dr. P. L. Murphy, Superintendent of the Western North Carolina Insane Asylum, at Morganton, North Carolina.

A letter from Mr. E. R. Stamps, President of the Board of Directors of the North Carolina Penitentiary, was read, inviting the Board to examine the convict quarters in the W. N. C. and A. & S. R. R. Action on these matters was postponed to the Wednesday meeting.

It was proposed for order of business Wednesday for conjoint session—

President's Address.

Secretary's statement of the workings of the Board.

Suggestions of desirable things for the Society to do.

Reports from County Superintendents.

Election of members to fill vacancies.

The question of subscribing to a few practical papers was brought up, and it was the sense of the meeting that the Board is a progressive body, and ought to instruct themselves in matters appertaining to the public health.

The subject of hygiene in public schools and text-books on physiology and hygiene was discussed.

The Board then adjourned to meet on Wednesday, May 20, 1885.

THOMAS F. WOOD, M.D., Secretary.

## REGULAR MEETING OF THE STATE BOARD OF HEALTH.

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DURHAM, N. C., May 21, 1885.

A meeting of the State Board of Health was held in Stokes' Hall on Thursday, May 21, Dr. Jones, President of the Board, in the chair. Present,

Mr. Arthur Winslow,
Prof. W. G. Simmons,
Drs. W. D. Hilliard,
" S. H. Lyle,
" R. L. Payne,
" R. H. Lewis,
" J. W. Jones,
" Thomas F. Wood.

A dispatch was read from Dr. McDonald regretting his inability to be present.

Dr. Lewis was requested to write a paper on the Care of Eyes and Ears in Children, and Prof. Simmons to make an investigation and report at the next annual meeting on Illuminating Oils.

It was decided to divide up the work of inspection, Drs. Wood, Hilliard and Payne going to the Western part of the State, and Drs. Jones and Lewis, Prof. Simmons and Mr. Winslow to the Raleigh Institutions.

Dr. Wood asked for suggestions as to papers and books to be procured for the Board.

It was decided that Dr. Wood procure such sanitary papers as he might be acquainted with, and which would be of use to the Board.

Authority was given Dr. Wood to complete his set of the papers of the American Public Health Association for reference by the Board at a cost of $5 per volume.

The report of the Treasurer was read, as follows :

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| Postage | $ 19 55 |
| Receipt book | 50 |
| Copy of Act relating to Board of Health | 3 10 |
| Expenses of members at Raleigh meeting March 20–21 | 104 60 |
| Furnishing office | 50 00 |
| Preparation of office in lieu of rent | 75 00 |
| Express on stationery to members of Board | 4 50 |
| Salary of Secretary and Clerk March and April | 200 00 |
| Total | $457 25 |

On suggestion of the President, it was decided to appoint an auditing committee at the next meeting.

Dr. Payne suggested that the Secretary issue a pamphlet for the instruction of country physicians as to the duties of the Superintendent of Health, and also in the organization of County Boards of Health.

Dr. Wood referred to a mistake made at the Raleigh meeting, reading from that part of the proceedings relating to the election of county superintendents, as follows:

> *Resolved*, That, in view of the recent amendments enacted to promote the efficiency of the North Carolina Board of Health, we respectfully appeal to our medical brethren of the counties that have no auxiliary county board, to proceed to organize at once, and elect their county superintendents; and we recommend to county boards that have held no biennial meeting the present year, to meet as early as practicable and elect their respective officers and superintendents to serve until the next regular biennial election, and report to the Secretary.

It was afterwards discovered by the terms of the law that meetings of organization of County Boards were not admissable where such Boards were in existence, and that superintendents already holding office would hold over until the regular meeting in January. Correction so ordered on record.

Dr. Jones suggested cautioning county superintendents when making a visit to jail or poor-house, to do so without giving notice to the person in charge of said institution.

It was decided to require County Superintendents of Health to give a descriptive memorandum from the County Superintendent of Health for each prisoner sent to the Penitentiary from the county jail. Also to state the number of prisoners received at the jail who can read and write. It was suggested, and the duty was undertaken by Prof. Simmons, to correspond with the chief officer of the Signal Service Bureau for instruments for twelve observatories to be distributed throughout the State.

Dr. Jones thought it very desirable for the promotion of immigration that climatological records should be established.

The Board then adjourned *sine die.*

# CLINICAL RECORD.

By ROBERT S. YOUNG, M.D., Concord, N. C.

(Twelve Selected Cases, dating from May 20, 1884, to May 20, 1885.)

(Read before the North Carolina Medical Society, at Durham, N. C., May 20, 1885.)

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## CASE 1.—ATONIC IMPOTENCY.

A hardware salesman, 25 years of age, consulted me on May 30, 1884, with the following history: He began to masturbate at the age of 16, and he continued to indulge this propensity until three years ago. Upon abandoning this habit, he became the victim of profuse nocturnal seminal emissions of a more or less periodic character, that is to say, they would occur almost every night, and frequently as often as four times in one night, for from ten days to two weeks, and then there would be an intermission of about a week's duration, during which time, however, his nightly repose would be occasionally interrupted by the most lascivious dreams, with imperfect erections ,showing that the hyperexcitability of the sexual organs, although greatly diminished, is by no means abolished. He had been under treatment for a year before applying to me, which resulted in considerable improvement in his general health and materially lessening the frequency of his nocturnal discharges. Several years had elapsed since he had experienced sexual intercourse, he having relinquished the more natural method of gratification in favor of the more convenient plan of masturbation. About two months before placing himself under my care he, desiring to test his sexual powers once more, was disgraced by failure by reason of an incomplete erection, the glans penis especially being very soft and inelastic, ejaculation also being premature, taking place at the moment of contact, before intromission was accomplished. From this time until I saw him May 30th, 1884, the nocturnal seminal emissions were occurring at the rate of from three to five times a week, and flakes of mucous, which the patient supposed to be serum, were discharged in advance of the stream of urine. He was easily fatigued, highly excitable, and his hands were tremulous and cold, and he suffered from dull, heavy pains in the groin and lumbar region, together with habitual constipation.

Upon his first visit to my office I made an examination with a set of soft, acorn-headed, bulbous explorers, which disclosed slight tenderness of the urethra at one and a half inches from the meatus, and more decided tenderness and stricture, calibre No. 25 (French scale), at four and a quarter inches from the meatus, the tenderness increased as the prostatic portion was approached. On withdrawing the instrument a stricture, calibre No. 12, was found at five and a half inches from the meatus. The bulb drew out a large quantity of a whitish fluid, supposed to come from the prostatic portion of the urethra. The urine was acid and loaded with the lithates, but the genital organs were normal. I prescribed a mild cathartic mineral water, to be taken every night, also warm hip-baths and warm enemata night and morning, with 30 grains bromide of potassium every eight hours. The diet was restricted to perfectly bland and digestible articles; sexual intercourse and alcoholic stimulants were forbidden. I ordered one drachm of a solution of nitrate of silver, 2 grains to the ounce of water, to be injected into the urethra four times a day. On June 3d, 1884, four days after treatment was begun, I introduced a No. 14 steel bougie (French scale), and repeated the operation every other day for about two weeks, and then had the patient to pass it himself once every day. At first, whilst the urethra was so sensitive, the instrument was withdrawn immediately, but as the hyperæthesia was reduced it was allowed to remain longer, frequently as long as ten minutes, which limit, however, I never exceeded. I gradually increased the size of the bougie used in proportion to the decline of hyperæsthesia and the enlargement of the stricture, until we reached No. 32, which was the largest that would pass through the meatus without cutting. The coarctation was now cured, or at least it was as large as the meatus, and the sensitiveness was completely obtunded. During the first fortnight of treatment there were eight nocturnal emissions, but from that time until discharged the patient had only one.

He was discharged on October 10th, 1884, perfectly restored. His restoration was closely followed by marriage, and he has frequently told me since that event that he experienced no difficulty whatever now in the sexual act, and as a proof of the truth of his statement he will soon become the father of at least one baby, and if there be anything in appearances, I should say two.

## CASE 2.—UTERINE HEMORRHAGE DURING THE EARLY MONTHS OF PREGNANCY.

Mrs. V., aged about 26 years, came into my office on June 2d, 1884, to know whether or not she was pregnant.

She had been married a little more than two months. Her general health was excellent—had no history of previous uterine trouble, her menstruation having always been regular up to the last period which she missed.

Having had slight morning sickness, the uterus being slightly but uniformly enlarged, and the vaginal mucous membrane being of a decidedly blueish tint, I gave the opinion that she was pregnant.

Ten days later I was called to her, and found considerable hemorrhage occurring. I at once made a thorough examination with a speculum, but was unable to discover the cause of the flow.

As the same natural and physical signs existed as before, I anticipated an abortion, and ordered her confined to bed, and administered the remedies usually given on such occasions.

The next day the flow had ceased. A history similar to this was given at various intervals for a month longer, when, after the closest interrogation, I discovered that her husband, a strong, robust and vigorous man, was in the habit of having connection with her, never less than three times, and frequently as often as six times, with but one or two exceptions since they were married, and that, in addition to this excess of coition, the husband was possessed of a most redundant penis, which I deemed a prominent factor in the existing trouble.

Lately it had been usual to notice a little blood after each intercourse—sexual congress was at once interdicted, and there was no more blood from her uterus.

I saw my patient frequently afterwards, but not professionally until term, when I delivered her of a large, healthy female child. The labor was complicated by placenta prævia, which necessitated the turning of the child.

Now it is an admitted fact that there is an abnormal determination of blood to the uterus during coition. It is quite likely that there is considerable shock to the uterus by the penis coming into violent contact with the os, which in the case of very short vaginas and unusually long penises, as in the present instance, may amount to considerable displacement, leading to a partial separation of the secundines and its consequent hemorrhage. It is quite possible that the attachment over the mouth of the uterus may have predisposed to the hemorrhage, but that coition was the exciting cause admits of no doubt.

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## CASE 3.—SYPHYLITIC HEPATITIS.

On June 15th, 1884, I was called to see a ten-year-old white girl, suffering from abdominal enlargement and dyspepsia, with the following history: Both parents living and in good health. The patient has been remarkably free from the ordinary diseases of childhood, and seemed to enjoy better than the average health until about one year ago. She then began ailing without being actually sick. Her appetite failed; she lost flesh; had some eructations; her bowels moved sluggishly, and a general lassitude came over her. She was treated for scrofula. dyspepsia and worms; tried a change of climate and the numerous mineral springs; nor did she escape the trial of every "patent medicine" which was recommended and urged by her many friends; she was kept from school and placed upon all kinds of diet, all to no good. The abdomen began to swell and continued from day to day to grow larger; her strength completely broke down at last, and she could no longer leave her bed. This was the history of the case up to the time of my first visit. When I saw the little girl I at once noticed her cachectic appearance; her wrinkled face; the dull, listless expression of her sunken eyes; the peculiar dirty-yellowish hue of her skin; her emaciated body, and the prematurely old expression of countenance so often met with in children suffering from hereditary marasmus. The organs of the chest were normal. The abdomen was greatly enlarged by serous effusion. The fullness of the superficial abdominal veins denoted a congestion of the portal circulation. The great amount of the effusion and the tympanites above, effectually prevented me from determining the size of the liver with any degree of accuracy. Her tongue was pale, flabby and covered by a whitish coat, and was indented by her teeth, which presented the characteristic notching of the central incisors first described by J. Hutchinson, which is of great significance in the diagnosis of retarded hereditary syphilis.

Remembering that ascites is rare in children, and that, when it happens, it is generally caused by tubercular peritonitis, or by cancer of one of the abdominal viscera, I made, more by exclusion than anything else, and by reflecting upon the failure of all kind of treatment tried so far, the general diagnosis of retarded hereditary syphilis, and the special diagnosis of syphilitic hepatitis. If success of treatment can verify a diagnosis, then mine was correct. Paracentesis was performed, the effusion and tympanites seriously threatening a fatal interference with the action of the heart, and nearly a gallon of a slightly opaque, yellowish fluid, containing a large percentage of albumen, was slowly withdrawn.

Mercurial inunction into the abdominal walls, and gradually increasing doses of the iodide of potassium, formed the treatment, and I had the gratification of seeing the child in good health by August 10th, a little less than three weeks after beginning these therapeutic measures.

Immediately after the performance of paracentesis the liver was found to extend down to within an inch of the ilium ; the organ was soft, tender, and its margins smooth and even. The spleen was also slightly enlarged. The fluid never accumulated again. The patient was afterwards placed upon a tonic treatment, and when discharged the liver still extended two inches below its normal position.

Several months later (December 6th) I saw her again ; she seemed in excellent health, and there was no trace left of her former illness, except the notches in her teeth. The liver and spleen promptly returned to their natural size. The urine had never contained albumen in abnormal quantities, but for a short time there was present therein a trace of the coloring matter of the bile.

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## CASE 4.—REMITTENT FEVER COMPLICATED BY THE VOMITING OF PREGNANCY.

On Sunday, July 6th, 1884, I was called to see Mrs. Mc., aged 27 years. Had been married six years, and was the mother of two strong, healthy boys, aged 2 and 4 years, respectively. She had been sick about three weeks when I was called in. She had been attended by a man who called himself a physician, but who in reality knew nothing about medicine at all, having never seen the inside of a medical college, but had acquired his whole knowledge of the subject while acting in the capacity of a nurse in one of the Petersburg hospitals during the late war. As the case did not progress favorably, her husband had repeatedly asked the medical attendant to procure some competent aid; this he persistently refused to do, saying, with that degree of "cheek" which only this class of men can exercise: "The case is perfectly clear to me." Finally, however, he concluded that the case was not altogether as clear as he had once imagined, and, abandoning all hope of his patient's recovery, took his departure. Then it was that I was invited to see the case. I found the patient with a temperature of 103°, pulse 120; skin hot, dry and of a yellow hue, of which color the sclerotic coats also partook; the head ached severely in the frontal region; the tongue was dry and covered with a yellowish-brown coat. The bowels had not moved for nine days, which action was produced by a large dose of Epsom salts. Physical examination revealed a greatly enlarged and extremely tender liver; also an enlarged spleen. There was considerable tenderness over the stomach also, which, they said, was due to a blister which had been placed there several days previous to control the vomiting, which, however, it had failed to do. She had missed her last monthly period, her time having been about the beginning of this attack (three weeks ago). But the most distressing symptom of all was the vomiting. Her stomach would retain absolutely nothing, the mere mention of any remedy frequently being sufficient to bring on a paroxysm of vomiting, which in every case would be accompanied by the most terrible retching and nausea. This excessive vomiting and elevated temperature (which had now lasted for three weeks) had reduced the naturally plump form to little more than skin and bones. The first thing I did was to administer a large, simple enema, which emptied the bowels effectually; then a hypodermic injection of $\frac{1}{8}$ grain morphine, which calmed her stomach considerably. I then applied cantharidal collodion over the liver and produced a blister there, to obviate an abscess in that organ, which I believed was highly imminent, and then I began with my anti-emetic remedies, and exhausted the whole list without receiving one particle of benefit from any. After failing in this line I concluded to allow the stomach to rest, and began the administration of quinine for rectum, in 30 grain doses every four hours. After showing the nurse how to give the enemas I went home, leaving instructions not to give anything, not even ice, by the mouth, and keep up the injections until I returned.

It was 9 A. M. on the 7th when I saw my patient again. I went prepared to produce abortion in case the quinine had not exerted its oxytocic properties and done it for me. She had vomited numerous times during the night, but had retained all her enemas, having received five up to this hour; she still complains of headache. I tried her stomach with a little lime water and iced milk, but it was immediately ejected. I did not attempt it again that day. Her temperature was 100°, pulse 110. Said she felt no effect from quinine as yet; no uterine contractions. I added 1 grain of opium to each injection, and ordered them to be continued at the same interval. I returned that evening about sun-down, and found her with a temperature of 100½°, pulse 112; said she could hear a little roaring in her head, and that it still ached a little. She had vomited eight times since I saw her last. The vomit consisted of bile and mucous. The day before I took charge of the case she vomited a good deal of matter which they described as looking like beef liver (which I supposed to be blood-clot) and some little pure blood; it was this fact which caused their first physician to despair. The blister over the liver had done well. I ordered it to be dressed with carbolised vaseline, and the quinine and opium to be continued through the night as usual.

July 8th, temperature 99½°, pulse 92, strong and firm. She vomited five times during the night, but would sleep between times, and said she felt a little refreshed. Head still ached a little; was deafened by the quinine, and complained of a peculiar sensation about the eyes and dimness of vision; her pupils were both dilated (both to the same extent) in spite of the opium she had taken. I did not know how to account for this, but reduced the dose of quinine to one-half the quantity she had been taking. I returned again that evening, and found the temperature 100°, pulse 98; had vomited only twice that day, but had strained very much both times; pupils still more dilated and vision almost gone; she could not distinguish a man from a woman by sight. I ordered the quinine and opium to be continued through the night.

July 9th, 8 A. M., temperature 99°, pulse 86; patient strained twice last night, but vomited nothing. She says with the exception of the roaring in her head and her blindness, she feels pretty well. She cannot distinguish daylight from darkness to-day. I ordered the same treatment continued. I could not see her again that day, but on the next morning at 8 o'clock, July 10th, her temperature was normal, as was also her pulse. She had not vomited in twenty-four hours. I tried her again with iced milk and lime water, and was gratified to have it retained and actually relished by the patient. Her vision was totally gone. I had the quinine and opium continued until that night, and then withdrawn. I called only once more to see her during that attack. Her temperature never arose again, and has not vomited to this day, that I am aware of. She had severe vomiting with her previous pregnancies. It was nearly two months before any improvement took place in her eyes; all this time her pupils remained dilated, but from that time on vision gradually returned until it was entirely restored. I delivered her at term of a fine, healthy boy baby. I was anxious to have her eyes examined by a specialist with an ophthalmoscope, but did not succeed, owing to our remoteness from an oculist. My opinion is that either the straining and vomiting, or the quinine, produced the trouble—probably both played a part in producing an effusion into or behind the retina, which underwent a gradual absorption and allowed things in the interior of the eye-ball to again assume their normal position and discharge their normal functions. I do not pretend to assert that this is the proper solution of the problem, but mention it as the probable state of affairs within the eye-ball.

I gave the patient during the treatment 525 grains of quinine.

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## CASE 5.—DIABETES INSIPIDUS.

A gentleman of about 40 years of age called at my office on the 4th of September, 1884, to obtain advice with regard to a malady under which he was suffering.

Mr. B. had a good family history. He drank moderately of whiskey, but never to excess.

He passed, on an average, ten pints of urine daily, of a specific quantity of 1005, of acid reaction, and without a trace of albumen or sugar.

The disorder came on gradually, and when he first noticed it he was in excellent health. There was actually no cause to which it could be assigned, unless, perhaps, to overwork and worry, or to a doubtful history of a strain in lifting a heavy weight. He never had venereal disease, and had received no injury to the head or to the spine; he had not had a sun-stroke; there was no malarial history. His digestion was fairly good; his bowels were rather constipated; no disease of the heart, lungs, or any of the viscera could be discovered; the temperature was normal; the pulse a little fast. He had lost flesh steadily and rapidly, and was strikingly emaciated when I saw him, about six months after the outbreak of his malady. He complained of nothing but debility, of a feeling of weakness in the small of the back, of the incessant urination, and of an irritability at the neck of the bladder, with a sense of burning, for which no adequate local cause could be discovered.

He declared that he was not thirsty, and that he passed more water than he drank, and unless he deceived me such was indeed the case. I had him to measure the fluids of every kind he took; they never exceeded six pints, and I cut them down to four pints, whereas he passed not less than eight, and oftener ten pints in the twenty-four hours. He was very restless. There were occasionally chilly sensations and flushes of heat, and he was sometimes bathed in perspiration, but there were no night-sweats.

After observing his case while he was taking no medicine and under varied diets, and finding it uninfluenced, he was placed on drachm doses of the fluid extract of ergot three times, and subsequently four times, daily, and for four days six times daily. In a few days after beginning this treatment he was no longer obliged to get up at night, and the pains had all left him; the flow had decidedly decreased. On the eleventh day I saw him and noticed a great improvement; he said he had passed only five pints during the last twenty-four hours. On the twenty-second day of treatment he was voiding a little less than four pints of urine, and his whole condition was greatly better. The ergot was reduced to a drachm three times a day. It had, throughout, not given him any inconvenience whatever. On the twenty-fifth day the ergot was still further reduced; he only got thirty minims thrice daily, and was discharging three and a half pints of urine daily, of almost normal specific gravity.

On the thirteenth day the ergot was withheld entirely, and the patient given the elixir of iron, quinine and strychnine for ten days. At the expiration of this period he was passing about three pints of urine, while drinking about five pints of fluids. His general condition was good, but I prescribed cod liver oil for him, under which he fattened and grew strong. The irritability at the neck of the bladder and all other uncomfortable symptoms, disappeared when the diuresis was controlled.

I discharged him cured on November 1st, 1884, over six months since, and he still remains strong and vigorous, passing about the right quantity of normal urine.

I have not, I regret to say, been always successful in the treatment of diabetes insipidus with the fluid extract of ergot; while I have effected a cure in some cases by its use, I have signally failed in equally as many, if not more.

## CASE 6.—MALARIAL HÆMATURIA.

On November 22d, 1884, about noon, I was called to see Mr. C., a young gentleman 23 years of age, who gave me the following history: He had been having chills throughout the whole fall and latter part of summer; he had one last night, together with sick stomach and occasional vomiting, and since daylight had passed from his bladder a quantity of almost pure blood. He had a fine physique, good constitution and regular habits. During my visit he was seized with another chill. His face exhibited more than ordinary pallor, lips became livid, skin dry and had a violent pain in the lumbar region. His tongue was slightly coated and his bowels were loose. I at once gave him 10 grains of calomel, divided into two doses, the second dose to be taken in two hours; at the same time gave $\frac{1}{4}$ of a grain of morphia hypodermically to relieve the pain in back. At this time the pulse was 116 per minute, and temperature was 99°. I returned at 4 o'clock that afternoon, and was told that the patient had thrown up just after taking each powder I had left. The pain in the back was better, the skin dry, hot and of a saffron color; pulse 120, feeble and soft; temperature 100°; urine scant and of a dark blood color. I then ordered quinine in 5 grain doses every hour, but the stomach would not retain it; then I resorted to the gelatin capsules, but with no better result.

At once appreciating the urgency of the case, I determined to administer the drug by enema, which I proceeded to do, in 30 grain doses, repeated every three hours, but apparently without effect. The next morning, November 23d, at 8 o'clock, I again saw the patient. His skin was more intensely yellow; he had voided about one ounce of urine, which was, in fact, almost pure blood; nausea and vomiting continued; no evacuation of the bowels; pulse 120, with same character as at last examination, and temperature ½° lower. I determined, in addition to the enemas of quinine, which I ordered to be resumed, to employ the hypodermic method also, as an auxiliary, repeating it every hour until profound cinchonism was produced. At 9 A. M. I applied a sinapism over the whole abdomen, and had the extremities and back rubbed with the spirit of turpentine on a coarse cloth and gave hypodermically 1-16 grain of morphia to allay vomiting, which seemed to exert a salutary influence for a short while. Hiccough now supervened, which proved exceedingly troublesome throughout the case. I remained with the patient until 9 P. M., and when I left there had been no appreciable change in his condition.

The next morning, November 24th, at 8 o'clock, the general appearance and symptoms were the same; no discharge from the bladder; one dark, tarry evacuation from the bowels; pulse 108, very soft; temperature 99½°; inclination to sleep slightly increasing. The skin has become moist during the night, which condition recurred at short intervals for twenty-four hours; the same treatment continued throughout the day. I called at 11 P. M. and found my patient growing worse. The bladder feeling somewhat distended, I introduced a catheter and drew off almost four ounces of bloody urine; tried various diuretics, but to no effect.

On November 25th, 10 o'clock A. M., condition much worse; more stupor; pulse 120, soft and compressible; temperature 100½°; quinine treatment continued; other diuretics tried; hot vapor baths applied as often as circumstances would permit; counter-irritation continued, but the location of same changed to various places.

November 26th, 10 o'clock A. M., pulse 100; temperature 100°; general condition much the same; catheter brings away one ounce of clear fluid, inodorous; free evacuation of the bowels during night. Same treatment continued.

November 27th, 10 o'clock A. M., patient growing worse; evidently much weaker; stupor increasing; no urine; bowels quiet; pulse 96; temperature 98°; tongue dry and sores upon teeth and lips. Ordered beef extract, hot vapor, turpentine and friction over the kidneys; 9 o'clock P. M., still growing weaker; beef extract forced throughout the whole night.

November 28th, 8 o'clock A. M., condition still worse; pulse declining in frequency and volume; total suppression of urine or other fluid from bladder; hiccough persistent; beef extract continued; all medicines withdrawn; the symptoms continue slowly but steadily to grow alarming; pulse failing; temperature lowering; respiration sighing and irregular; no action from the bowels or kidneys until the morning of the 29th at about 11 o'clock, when quiet death suspended all efforts.

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## CASE 7.—PUERPERAL ECLAMPSIA.

At 8 o'clock A. M. on December 2d, 1884, I was called by Dr. A., of our town, to assist him in a case of puerperal eclampsia.

The patient, E. W., aged 25 years, single, was seized about 12:30 or 1 o'clock that morning with a slight spasm; it was so slight as not to alarm the attendants, but in the course of a short while she had another, and in a little time a third, and then a messenger was dispatched for their physician. He arrived at 4 o'clock A. M., and found his patient profoundly comatosed. She had been unconscious since 2 o'clock A. M.. She had had six convulsions before his arrival, and was in the midst of one when he entered the room. Vaginal examination revealed no dilatation of the os, and there were no uterine contractions. Her mother said she was at term. Her breathing was stertorous, her pupils dilated, her pulse small and feeble. She had three convulsions during his examination. He administered ¼ grain of morphia and 1-64 grain of atropine hypodermically and retired. He returned at 8 o'clock A. M. and took me with him.

When I arrived the patient was still comatosed and having convulsions at intervals of about ten minutes. We relaxed her with inhalations of chloroform. Digital examinations performed again and found the os patulous but not dilated. The patient would not swallow chloral, so we again gave hypodermically ¼ grain of morphia. She had bitten her tongue fearfully. At 11 o'clock A. M. we again relaxed her with chloroform and again gave her the hypodermic of morphine. The convulsions were still occurring, but they were not so severe and the intervals were growing longer.

At 12:30 P. M. suddenly recalled; found child born. *The membranes were intact.*

The child had been expelled by one terrible throe during a convulsion; it was born lifeless, of the male sex; quite small (weight 5½ pounds), looked to be badly nourished, but was fully developed.

There was but little amniotic fluid in the membranes, which were immediately opened with a pair of shears.

After delivery the convulsions did not cease, but continued to recur in close succession. The pulse at this time was entirely incompressible at the wrist. Hypodermics of morphia were kept up every two hours. At 6 o'clock P. M. her condition was such as to make us abandon all hope of her recovery; death seemed imminent, but morphine kept up to prevent recurrence of convulsions.

December 3d, 8 o'clock A. M., convulsions ceased during the night; pulse still so feeble and fast it cannot be controlled; breathing still stertorous. Ordered that stimulants and nourishment be given in case she got able to swallow; als directed doses of the bromides and chloral in the event she regained the power of deglutition. We returned at 4 o'clock P. M. and noticed signs of returning convulsions· She had swallowed nothing as yet. The bladder had not been emptied for two days. Had made two fruitless efforts at catheterization because of the violence of the patient when the genitalia were touched, convulsions being produced if the finger should perchance impinge upon the clitoris. Chloroform was given to the surgical degree, and the bladder successfully evacuated; about ½ gallon of dark ammoniacal urine being voided.

An old lady in attendance recognizing the necessity of having the bladder emptied, had tried the potency of pouring water from one vessel to another to produce urination, and was greatly chagrined and disappointed when her device failed.

Our patient had about forty convulsions in all; had no more after her bladder was emptied.

She made a prompt and perfect recovery, and was discharged on December 6th, 1884.

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## CASE 8.—MAMMARY CARCINOMA.

Mrs. H., aged 42 years, mother of one child, aged 22 (a daughter), whose health is not good, but no local disturbance of any kind.

About three years since Mrs. H. discovered a small lump in her breast, her attention having been called to it by pains of a lancinating character. The mass was not larger than a common hazlenut, when first found, but was extremely painful at times, especially at the menstrual point; it was situated in the left mammary gland to the lower and outer side of the nipple; perfectly mobile, but from the first of a stony hardness. The case progressed with a very slow but steady growth, being at times so pained as to keep her awake and impair the general health by interfering with her alimentation and digestion. About one year ago the nipple was found to be retracted and firmly fixed to the morbid growth, as was also the integument overlaying the mass. Pains now became more frequent and radiated to the surrounding structures, especially to the shoulder and arm of same side. I noticed that my patient was now becoming emaciated, and that if anything was to be done it must be done without delay. One year ago I advised the extirpation of the diseased mass, but failed to have her understand the seriousness of her condition; however, now she concluded to have it removed, and on January 7th, 1885, I proceeded to the work.

She was at first placed upon the operating table and anæthetized with chloroform; then an elliptical-shaped piece of integument about five inches in length and three inches in width was removed, and the carcinoma dissected out. I went down upon the pectoralis major muscle and removed some of its fibers, for the tumor had become adhered to the fascia covering it. The vessèls, all but one, which I tied, were secured by tortion, they being unusually small and few. Before I began I prepared a 10 per cent. solution of carbolic acid, and during the process of the operation this was used in sponging out the wound; after the cutting was finished the wound was thoroughly cleansed with this solution and left open for two hours, simply covered with a linen cloth saturated with the solution of carbolic acid. At this time the wound was clean and the edges presented the gluey appearance familiar to every surgeon. At the expiration of two hours I closed it with ten very fine silk sutures and strips of adhesive plaster; over that a linen cloth, folded four-fold and dampened with a 4 per cent. solution of carbolic acid, and over all a roller bandage.

This dressing was not removed for four days, and the wound was found to have united by first intention throughout three-fourths its whole extent, and not a drop of pus about the remaining portion of the wound; on the seventh day the sutures were removed, and it was found that only a small portion (about ¾ of an inch) was not yet healed. The pain had vanished, and the patient said she had not been so well for many a day.

In about ten days a very small quantity of laudable pus was found covering the small unhealed portion.

Upon the fifteenth day the union was complete, and remains so up to the present date, with every indication that it is permanent.

The general health of my patient was never better than at the present time.

I regard the antiseptic method of treatment as almost absolutely necessary to the speedy and perfect union of wounds of this kind, especially if there be a particular desire to avoid constitutional disturbance.

## CASE 9.—RECURRENT FŒCAL ABSCESS.

I was summoned on January 17th, 1885, to see the mother of one of our most respected colored citizens.

Her age is 56 years. I found her in bed, complaining of a somewhat obscure abdominal pain, and she presented me with the following history:

On the 9th, about a week before my visit, she had been exposed to both cold and wet for a considerable time; from this she dated, and to this she attributed, her trouble. On the next day after her exposure she began to experience vague uneasiness and pain in the abdomen, but kept about her household duties until the 4th, when she was obliged to go to bed; the pain did not subside, so she sent for me on the 17th. She had no fever, and lay on her bed in the dorsal position, with left leg drawn up; the pain was mainly confined to the left inguinal region and iliac fossa. Upon examination I found quite an extensive cicatrix, which she informed me was the result of an operation for strangulated hernia performed upon her by Dr. Johnston at the age of 26. This cicatrix occupying the usual site of operation for femoral hernia, consisted of two parts, one extending an inch or more parallel with Poupart's ligament, and the other joining it almost at a right angle and extending two inches down the thigh, giving the whole scar a T shape. I examined this whole region very thoroughly, but elicited nothing but deep-seated tenderness. From her account of the old operation for strangulated hernia, I was led to believe that at that time there was gangrene of the gut and fæcal fistula, the wound being many months in healing. She stated that her pain was paroxysmal in character, though the soreness and inability to extend the limb was constantly present. The paroxysms were accompanied by a great deal of borborygmus and a free discharge of gas, which always relieved them. I left her some small doses of calomel and opium, to be taken every three hours. Next day, the 18th, her condition was about the same; bowels had been moved without discomfort, but with no relief to the abdominal pain, which was rather worse than before. There was some induration and tenderness around the cicatrix, with slight fever. I ordered a poultice, and directed nitre and aconite, with an anodyne, at bed-time; 19th, no material change; treatment continued; 20th, patient had a chill last night; considerable fever to-day; pulse 115; fevered tongue; rather anxious expression of countenance. I could discover no decided evidence of suppuration, although I felt sure it had occurred; ordered the same treatment to be continued; 21st, last night, or rather this morning early, she called her daughter up with the exclamation that something was running from her; this was found to be pus. The abscess, which had been so insidiously forming, had burst during sleep. The daughter stated that it had discharged about a pint of highly offensive matter. The opening, which was large enough to admit the point of one's little finger, was just at the point of juncture of the two cicatrixes already described. The discharged pus was mingled with a yellowish, rather feculent smelling material, like the contents of the small intestines. I dressed the abscess with absorbent cotton, strongly impregnated with carbolic acid, to absorb and disinfect the discharge, and prescribed quinine and whiskey internally, with a diet as nutritious as possible, but as little likely to leave fæcal residue; 22d, patient feeling much more comfortable; sat up to have bed made, which she had not been able to do for several days; the discharge rather free and decidedly more feculent. A probe inserted into the opening, passed upward and inward its whole length. No change was made in the treatment; 24th, did not see patient yesterday; opening has enlarged to about double its original size; its edges are ragged and sloughy-looking; there is a very free feculent discharge, which is darker and more consistent than has been observed heretofore. She complains of considerable pain. There is now no fever or acceleration of pulse. Yesterday she had a large costive evacuation of the bowels. I ordered her a large dose of castor oil. Her daughter says that prunes which she had eaten were soon afterward seen in the discharge, and fluids taken seemed to pass immediately through. The patient is beginning to look ashy and thin; 26th, did not see patient on yesterday; the castor oil ordered at last visit operated once quite freely, part of the fæces passing through the wound, from which there has been less discharge since. He is entirely free from pain and feeling better than at last visit; sat up a little this morning.

The edges of the wound have lost their sloughy appearance; they look clean and granulating nicely. There is some induration and infiltration extending down the thigh. Ordered another dose of castor oil. From this time, for a month or two, the opening in the groin kept discharging feculent matter very freely, and the patient's condition became very unpromising and precarious.

The discharge was thin and copious, and though distinctly feculent, was not especially offensive; it seemed to be undermining the patient's strength quite seriously. The administration of opium and other astringents at length diminished the amount of discharge, and it became more consistent, more of it passing by the natural avenue and less by the artificial anus. I supported the patient's strength in the meanwhile by the administration of cod liver oil and other tonics.

By the beginning of April the wound began to diminish in size and kept on slowly contracting until within the past week it has closed entirely, and seems to be firmly and securely united, and the patient is as well as she ever was.

The successful termination of two attacks of fæcal abscess is as unusual as it is interesting. The long period between them (30 years) is a feature of great rarity.

I presume that after the first attack the bowel in some way was bound down by a mass of inflammatory deposit in the left iliac fossa; some strain or other injury to this may have set up an inflammation, or some pouch or cul-de-sac may have formed and some indigestible substance lodged in it and ulcerated its way through; but most probably from cold and exposure inflammation was set up in the mass of new-formed tissue and communicated with the intestine; at any rate the case is one of great rarity and interest, and full of instruction and encouragement upon a subject about which none of us know too much.

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## CASE 10.—POLYPUS OF THE UTERUS SUCCESSFULLY TREATED BY LIGATURE.

A lady 60 years of age consulted me more than two years since for a difficulty in passing her water. She stated that the effort was occasionally attended with pain, as it was at that time; and further, that she had had falling of the womb for more than eighteen years, from which she had suffered very much and for which she had worn an instrument for a long time by the advice of her family physician. Supposing that she labored under procedentia uteri, I did not interrogate her upon that subject, but prescribed for the difficulty of which she complained. Of that she was soon relieved, and I was not employed by her again for nearly two years.

On February 4th, 1865, she called upon me and said that her health and strength were failing her, and the instrument had for some time past failed to afford her the support it formerly did. The last remark led me to inquire regarding the supposed displacement of the uterus. Her replies led me strongly to suspect that she and her physician had been mistaken relative to the cause of her difficulty; but being informed by her that she had been examined by a number of physicians, who had all agreed that it was prolapsus, except one who thought it was ulcer of the womb, I was distrustful of my own opinion, but did not at that time inform her of my doubts in her course. I prescribed a tonic and she retired. She informed me that she had borne four children, and had been a widow for thirty years. While deliberating upon the subject I became convinced that if her replies were correct, she had polypus, and not prolapsus, as she supposed, and determined to acquaint her with my opinion, notwithstanding her assurances. This I had the opportunity of doing next day, and accordingly I intimated to her that I entertained doubts of her having falling of the womb, and that it was more probable that it was a tumor, which might perhaps be removed. It was difficult to persuade her of the possibility of a mistake, as she had great confidence in those whom she had consulted. She then confessed to me that she had never had an ocular or digital examination performed; this encouraged me to propose such an examination, which she at first promptly declined, but a day or two later, after she had conversed with those of her acquaintance upon the subject, some of whom had undergone such an examination, finally, but with great reluctance, submitted on February 7th, 1885. An examination confirmed my opinion; a polypus was found of no inconsiderable size; it was of the fibrous character, cylindrical in form, and ulcerated at its most dependent part; it had near its neck a small protuberance, which appeared like a small tumor, arising from the polypus itself. On removing the instrument it was partially protruded without the vulva, when, by traction and separating the labia, the os uteri surrounding the neck of polypus could be brought into view. Its pedicle was from ½ to ¾ of an inch in diameter and contained a large artery which pulsated strongly. The os uteri surrounded the neck of the tumor, through which it no doubt issued at some former period, as it was probably originally formed within the uterine cavity. The edges of the mouth of the womb were continuous with the neck of the tumor, which had been kept open by uterine discharge. Into this opening I introduced a silver probe an inch and a half. Though the lips of the womb and the peduncle of the tumor were continuous, the line of union could be distinctly traced by the dissimilarity of the color of the womb and the tumor; the former being of its natural color, the latter of of a dusky purple. She had constant puriform discharges, frequently mingled with blood, and she said she had the change of life on her for seventeen years, and that she was not free from it yet.

After the examination I informed her that it was a tumor, which could, in all probability, be safely removed; but as it had been of so long-standing, and the system accustomed to the puriform and bloody drain, and the health and strength so much reduced, I deemed it prudent to take advice before proceeding to remove it. Accordingly I consulted several of my medical friends, the most of whom advised against interference, only one, in fact, concurring in my own opinion, but as I had great confidence in his judgment, and as my patient was such a sufferer, I concluded to make the venture, which I did on the 12th of February, 1885.

The presence of the large artery made me decide upon the old method of ligation, as I was afraid I could not control the hemorrhage if I cut it.

I threw around the pedicle, just at the line of juncture above described, a piece of silver wire, and then twisted it down upon the enclosed tissue, thereby strangulating the tumor. On the second day, February 14th, the wire ligature was twisted still tighter, and again on the fourth day, February 16th, and on the fifth day, February 17th, the tumor was separated. It then measured six inches in circumference and four inches in length, although much diminished by discharges after ligation. While the ligature was applied she was unable to void her urine, which was drawn off by the catheter. The next day after the application of the ligature there was some derangement of the stomach and a little elevation of temperature, but nothing serious.

She had been unable for several years to hold her water perfectly, but since the separation of the polypus she has regained the power to control its passage entirely.

Her health has very much improved. No unfavorable consequences have followed the operation; and although so long accustomed to a constant drain upon the system, yet no inconvenience from plethora has arisen.

It is now more than two months since the operation. The vaginal discharge ceased almost immediately.

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## CASE 11.—CHOREA DURING PREGNANCY.

On March 31st, 1885, I was called to see Mrs. W., 23 years of age, in her second pregnancy, twenty-one days before her accouchment. She had had chorea from the commencement of her pregnancy; at first mild, but gradually increasing until it became so exceedingly severe that when I first saw her I had but little hope of her recovery. Almost every muscle in her body seemed to be in a state of extreme agitation. Her upper and lower extremities were so completely beyond her control that, to keep her safe from injury, it was necessary to have them constantly restrained by two assistants; and then, as she was sitting upon a sofa, her body was so violently moved about that her head was forcibly brought in contact with the wall before I could have her removed to a place of safety. She was then carried to an adjoining room and placed in the middle of a large bed, and in the course of my examination I discovered that her movements had been so violent and long-continued that the skin was worn off the elbows and knees, and that the garments were stained with blood. Her pulse was accelerated, but otherwise natural; tongue coated, bowels constipated and appetite slightly impaired.

I ordered a bottle of the citrate of magnesia at once, and 20 grains bromide of potassium, with one teaspoonful of the elixir of valerianate of ammonia every two hours. On the morning of April 1st I found her not improved. The bowels had been moved. I ordered the bromide of potassium and the valerianate of ammonia to be taken before each meal and at bed-time, and 2 grains of the sulphate of zinc after each meal, which was increased on the 2d to 4 grains; on the 3d to 6 grains; on the 4th to 8 grains; on the 5th to 10 grains; on the 6th to 12 grains, and on the 7th to 15 grains, which last increase, however, was rejected by the stomach on taking the second dose. From this time the symptoms of chorea declined so rapidly that in twenty-four hours she could use her hands to feed herself, and even to sew, and in a few days she went about as well as any other person. On April 20th she had an easy natural labor and a speedy recovery.

Large doses of the zinc could not be tolerated by the stomach except in pills, nor at any other time than after a full meal.

This patient had been attacked similarly during a previous pregnancy, but a miscarriage at about the sixth month brought the disease to an end before it had produced such terrible results.

The bromide of potassium was used then, as well as all throughout the latter attack, but without good effect, and in my opinion it did little or no good aside from its enabling the stomach to retain the large doses of zinc which I discovered it could not do without.

The patient had chorea at the age of 13 years, and her catamenia made its appearance shortly afterward. The disease then lasted about two years, and in that time a great many physicians had treated her, but does not know to whom or to what remedy she must attribute her recovery.

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## CASE 12.—CARBOLIC ACID POISONING FROM INTRA-UTERINE INJECTION.

On the 24th day of April, 1885, during the treatment of a case of puerperal fever, I thought proper to use the intra-uterine antiseptic douche, and employed a 10 per cent. solution of carbolic acid, the effect of which was to produce acute carbolic acid poisoning. This occurred with the first application, and it is not necessary to say that I did not again use the intra-uterine wash in that case.

The following were the symptoms present in the case : livid face, rolling of the eye-balls, with consequent strabismus and contracted pupils, absence of consciousness, increase of respiration to 40, and pulse to 150 per minute, clonic spasm, jerking and twitching after cessation of convulsion ; then came a cold, clammy sweat, vomiting and the characteristic black carbolic acid urine and hemorrhage from the uterus.

Fortunately, after several hours of anxiety on my part, she fully recovered from her poisoning, and in a week's time followed her entire restoration to health. By reporting this case I do not desire to be understood as underrating intra-uterine irrigation in the management of puerperal septicæmia, for I have too often seen most excellent results follow this plan of treatment, to wish it abandoned ; nor would I ever have its use curtailed, but I regard this case, as well as others similar that have occurred, to be significant warnings against carrying on the modern irrigation of the uterus with carbolic acid solution in an indifferent way.

## THE THIRTY-SECOND ANNUAL MEETING OF THE STATE MEDICAL SOCIETY—THE HARD WORK OF THE NEW BOARD OF MEDICAL EXAMINERS—THE VERY LARGE NUMBER OF CANDIDATES EXAMINED—THE SOCIETY WORK, LITERARY AND ETHICAL—THE INTERNATIONAL MEDICAL CONGRESS COMMITTEEMAN—THE CONSTRUCTION THE SOCIETY DESIRES TO HAVE PLACED UPON THE NEW LAW.

The largest number of medical gentlemen ever assembled in North Carolina, attended this, the thirty-second meeting of the State Society. Over eighty names were added to the list of regular members. Over one hundred candidates were examined for license, necessitating the assembling of the Board of Examiners on the Monday preceding the meeting. The Board devoted nearly seventeen hours of the twenty-four to their work, less the short time taken for meals, in all about two hours. During this time over one hundred candidates were examined in a most careful and conscientious manner, and several of them carefully re-examined. The results, we believe, as far as the Examiners are concerned, have caused great disappointment. These gentlemen, who for the first time have obtained an insight into the character of the education of the newly-graduated, find that they have to observe a considerable degree of leniency towards candidates. They find, as the Old Board found, that the public did not know the half of the iniquity that some schools of medicine are perpetrating upon the public in the wretched sham education with which they send classes of young men out upon the public. The New Board has acted with wisdom and discretion, and will surely build up a strong public opinion in its favor. The amount of labor they are thus rendering to the public and the profession cannot be estimated by dollars, nor can the anxiety of the Board be appreciated but by those who have served in the same capacity. We believe that there still exists the same great distance between the successful candidates of the maximum and minimum standing, that gave the Old Board so much solicitude. Never before have half as many candidates applied for license, nor has there been such a wide geographical representation.

The Board found it a necessity to call an extra session in Asheville on the 26th day of August.

Of the Society proper there was a very good meeting in every respect. The profession of the whole State, perhaps one-fourth of the entire number, was represented in this meeting. The papers presented were of more importance than at any preceding meeting, and the literary and scientific spirit more largely prevailed.

The ethical question which agitated so many of the members was settled somewhat satisfactorily, but it must have been apparent to all that the Society has but little real mandatory power in the settlement of such issues. We believe the Society itself made the prime mistake in attempting to regulate the fee for life-insurance examination, because, as Dr. Grissom showed, the American Medical Association pronounces against the attempt of State Societies to make such fee-bills. In actual practice, too, the attempt must fail to make a fee-bill apply with equal justice to Swain and New Hanover counties, for instance. The Society acted unwisely in not rescinding all fee-bill regulations, but the resolution introduced for that purpose was brought in at a time when those interested in the report of the Committee on the Bobbitt case believed it was intended to influence the report of that committee. Some of the gentlemen present overlooked one element of strength in the discussion of the case of Dr. Bobbitt vs. the Raleigh Academy of Medicine (the ethical issue referred to above), viz: that the Society numbers a strong and influential majority who are the active promoters of the benevolent mutual insurance societies in the State, and who are so warmly attached to the great work they are doing, that they regard the cause of any member who is striving to maintain the interests of these societies, as a common cause. The action of the Society in the cause at issue did not, in our opinion, touch the true question; and even if it had, there would have been no difference in the final results. As much of a hardship as it must sometimes be, local societies will regulate local fees according to the ruling of the majority. It is a cause of congratulation that the gentlemen who are parties to the issue are satisfied with the results.

The action of the Society, upon the request of the President of the American Medical Association, to nominate a member to serve on the supplemental committee for the organization of the International Medical Congress in 1887, caused some misunderstanding.

Although the Society unanimously nominated one of its members, it was afterwards ascertained (after adjournment) that another had been nominated by Dr. Lynch, the Vice-President of the American Medical Association, and, after all, the President of that Association, discovered that no one could be chosen to serve on this committee who was not present at the meeting in New Orleans. The choice finally fell upon Dr. Charles J. O'Hagan, and it is very certain that this selection will meet the hearty approval of every member.*

The Society, early in the session, defined clearly what construction they desired in regard to the amendments to the law regulating the practice of medicine. All doctors now, who *before* 1859 were practising in the State, whether they are diplomated or not, can become members upon personal application to the Committee on Credentials at any meeting, by bringing sufficient evidence of their moral standing and professional acquirements. And all physicians graduates of a regular medical college from 1859 to 1880, and have been practising, need not be licensed, and are eligible to membership in the Society. The Society has not defined what standard it will set up for a *regular* college, but we presume it would exclude the graduates of all schools who found their practice upon any exclusive dogma, and also all schools having a disreputable standing. The Committee on Credentials would decide this point.

As we look back upon this meeting, and recall the great amount of work entailed upon the Society by the recent law, we consider it a matter of congratulation that so much was accomplished, and that there was so little jarring. Perfect order and good feeling was everywhere apparent—in the crowded hotel and at the Opera House. Although a gloom hung over the community in consequence of the death of an estimable lady who had taken active part in the preparation for the meeting, the citizens were assiduous in their attentions, and provided for the wants of all. There is no doubt this was the most important meeting of the Medical Society of North Carolina.

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As a matter of convenience and economy to applicants for license, the Board of Medical Examiners have decided to hold special meetings in Raleigh August 24th and 25th, and in Asheville August 26th and 27th.

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* Dr. N. J. Pittman is also named by the *Jour. Am. Med. Ass'n.*

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## ORIGINAL COMMUNICATIONS.

### THE HÆMOSTATIC PROPERTIES OF AMBROSIA ARTEMISIÆFOLIA (RAG WEED).

By J. H. Hill, M.D., Goldsborough, N. C.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

*Mr. President and Gentlemen of the Medical Society of the State of North Carolina:*

At a meeting of the State Medical Society held at Tarborough in May, 1883, I read a paper on the hæmostatic properties of "Rag Weed (*Ambrosia Artemisiæfolia*"), which was referred to the Committee on Publication. As the paper did not appear in the published Transactions of the Society, I applied to Dr. Wood to have it returned to me. He stated that through some inadvertence it had been lost, and requested me to rewrite it, with any additional evidence I might have of the value of the remedy. I failed to do so at the time, but within the last few weeks having had occasion to use it in two or three cases, and mentioning the fact to Dr. Wood, he again requested me to write an article on the subject.

*Ambrosia Artemisiæfolia* (rag weed, carrot weed) is, as far as I know, an indigenous annual weed, always following a wheat crop, flowering about the middle of August. Not professing to be a botanist, I cannot give a clearer description of it. Dr. Francis Peyre Porcher, in "Resources of Southern Fields and Forests," says: "*Ambrosia Artemisiæfolia* (rag weed) grows in cultivated lands and pastures; collected in St. John's, Charleston district. The plant is used in fevers in Maryland as a substitute for quinine; a tincture is made or the juice given with whiskey. It is very bitter, and is thought to be useful." It is used as a common domestic remedy for nose-bleed, epistaxis, in Rowan county, where I first heard of its properties and witnessed its effects, as long ago as 1857, where I frequently saw it used to arrest hæmoptysis in the case of a negro carriage-driver of my father-in-law. This negro was a frequent sufferer from that complaint, and always carried a portion of the weed in his pocket, and being attacked would take a chew of it, swallowing the juice, with almost immediate relief, and was told that he had thus used it many years. I also saw it used as a styptic and applied locally in a case of violent epistaxis, in a boy of 10 or 12 with immediate effect, when I thought, from the volume of the hæmorrhage, the posterior nases would have to be plugged. As I stated before, it was the common domestic remedy through that country for these complaints, as I was informed by Drs. Whitaker and Summerell, the latter of whom confirmed my statements at the Tarborough meeting.

In my previous paper I referred to several cases in which I had used the remedy, but more particularly to the following: On the 23d of September, 1882, I was called to see a child, son of Mr. William Smith, aged about 6 years. Found him bleeding from the nose, gums and bladder, passing a short time after I arrived nearly a pint of what I took to be pure blood from the bladder; skin tallowy, and the legs and body covered with spots of purpura, from the size of a pin-point to that of a silver dollar. He had been bleeding for several days, and had been seen by two other physicians, who had given him ergot, lead and opium, aromatic sulphuric acid, etc.. etc., with no good effect. I was also informed that two sisters of the father had died from hæmorrhage, and that the family all had difficulty in arresting what to others would seem trivial bleedings. I thought it a very bad case, and so informed the father, but told him that if I could find a certain weed I knew of, I thought possibly I might arrest it. Being a stranger to the family, I saw that they looked upon my proposition rather with suspicion and hesitancy, but at length one of them agreed to go with me and look for it. I soon found a bunch of it in a fence corner, and gathered a handful of the leaves, which I put into a cup of boiling water and made a strong tea, of which I gave a large tablespoonful to the boy, at first every half hour, and then at longer intervals. I plugged the nostrils with cotton saturated with the per. sulph. ferri. Within fifteen minutes the effects of the medicine were seen. The oozing from the gums ceased, there was none from the nose, and, as I was afterwards informed, when he made water it was only slightly colored by blood. I remained with the case four or five hours, and when I left prescribed mur. tr. ferri in 3-drop doses in a glass of water three or four times a day. The next day the father came to town, called at my office perfectly delighted, paid his bill, and since then my reputation has been made in that neighborhood, although I did cure the case with "yarbs." Since then the boy has been perfectly well, except that occasionally in the spring there is a tendency to bleeding from the nose—always arrested, though, at once by the rag weed, of which the father is always sure to have a good supply on hand.

On the 5th of March, 1885, I was called hurriedly to see Mrs. W., of Goldsborough, before breakfast. Her husband came for me very much excited, stating that his wife was bleeding to death, the blood just streaming from her mouth ; that she was the patient of another physician, but that he was absent in Washington at the inauguration. I put in my pocket a package of rag weed, of which I always have a supply, gathered when it is in bloom, and went with him at once. I found the lady propped up in bed with a chamber-mug by her side nearly full of blood, which she was spitting up by the mouthful—evidently a case of hæmoptysis. I pulled off a portion of the weed and requested her to chew it and swallow the juice while I was having a decoction prepared, which, as soon as it was cold, I gave her in wineglassful doses, assuring her it would do the work. In an incredibly short time the hæmorrhage ceased. She was directed to continue the medicine at intervals of three or four hours. I called in the evening and found her comfortable—no blood except when she would cough up a few hard coagula. Called the next morning, found her up, eating a hearty breakfast of beef steak and buckwheat cakes; no sign of blood. A day or two afterwards she sent to my wife and asked her please to send her a little of the "weed," she would not be without it for anything. I put her on the tincture of iron and she has had no trouble since.

The last case to which I shall call attention is a wound of the leg, referred to before. Mr. Wright Smith, to whom I was called on the morning of the 16th of March, 1885. His brother came for me and told me that he had been bleeding for four days, and although another physician was attending him, he wished me to go and see him. I got to the house at 3 o'clock P. M.; found my patient a man about 30 years of age; had always been in good health, except an attack of bronchitis a year before; had complained for a week or more of debility, pains in the limbs, weariness and disinclination for work and shortness of breath. His physician, he said, had diagnosed his trouble from the liver, and had given him calomel, followed by quinine; that four days before he had commenced to bleed from the nose and mouth; had sent for physician, who had given him ergot and aro. sulph. acid, which he was then taking, but as it had no effect, his brother had given him some of the rag weed and advised him to send for me. As the little that he took seemed to do him some good, though he was afraid of it and would not take much, he consented to send for me. I found the blood to come from his nose, tongue, gums (which were very spongy) and throat. When I drew down his lip to examine the gums the blood oozed up in such quantity as to nearly fill the mouth. I gave him a chew of the rag weed and had a cupful of the tea made; as soon as this was cold I gave him a wineglassful every hour. After chewing the first mouthful there was literally no more bleeding from the gums or tongue. As he lived eighteen miles from Goldsborough, I staid with him all night. He passed comparatively a comfortable night. Before I left the next morning he had sat up and eaten a hearty breakfast, with the barest sign of blood when he would clear his throat, which he said came from the coagula in his nose. I will mention that while I was examining him I requested him to let me see his legs, which I found, as I expected, cove ed with spots of purpura. He said that he had not seen them before, and did not know how long they had been there. I put him

3-drop doses of tincture ferri three times a day. Five days afterwards his brother came to see me, perfectly satisfied, since there had been no bleeding since the night after I left, when he had blown the coagula from his nose, there was slight oozing, but the rag weed soon caused it to stop.

Now, Mr. President, having detailed the virtues of one of our indigenous remedies, I would like to say a few words on a subject in which I take much interest, although I may lay myself open to the sarcasm of being an "old woman doctor," a "yarb doctor," etc. But how many of the common domestic remedies of our country are valuable! I myself could name a good many, and I doubt not but that every gentleman present has some remedy in daily use which is not to be found in the materia medica—some remedy which he knows from experience is valuable, although he may have gotten it from an old woman, maybe an old negro. How many of us during the war were forced to use these common remedies, and with what joy we hailed the advent of that valuable work of Dr. Francis Peyer Porcher, "Resources of the Southern Fields and Forests." Suppose each member of the North Carolina Medical Society should contribute a short paper giving his experience with some home remedy, trifling, perhaps, in itself, to him, but collectively of what incalculable value to the profession, particularly so to country practitioners.

Since writing the above I have seen the following extraordinary communication in the NORTH CAROLINA MEDICAL JOURNAL from Dr. W. C. Galloway, of Snow Hill, Green county, North Carolina:

"I have had three severe cases of hæmorrhage of the nose to arrest by plugging the posterior nares with sponge. Rag weed, that Dr. Hill extolled so highly at the Tarborough Convention, did not stop them, nor anything else, short of plugging; though, in justice to the dear, lamented, potent rag weed (do give me a better and a more scientific name for the homespun plant), I must confess that it seemed to do some good in one case."

Why dear? why lamented? I suppose that the doctor must be one of those who can see no good thing in any home remedy, who is afraid to call any medicine by its common name for fear of derogating from the dignity of the profession—who would not call a scratch a scratch, but "merely an abrasion of the external cuticle," as a chill and fever "a tertian or quartern malarial intermittent pyrexia—who believes with Bacon, that "They be the best physicians who, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning." Now, I hold, with the same great man, that "He who hath learning, be it ever so little, and holdeth it back from they who have less, is as unprofitable a man as the most ignorant that lives." Did Dr. G. use the remedy proporly? Did he gather it at the proper time? Did he give it in sufficient quantity? I should like really to know, though, why he calls it dear, why lamented. I hope the doctor will be satisfied with the officinal name, "Ambrosia Artemisiæfolia," which I have adopted in this paper, after Porcher and Wood. For my own part I am willing to call things by their common names, believing that "the rose by any other name would smell as sweet."

Just here let me report the following case: On the morning of the 12th of May, at 8½ o'clock, I was called to see Ellen Dosmond, aged 8 years. I got the following history from the mother; Had recently removed to Goldsborough from Norfolk, Va. For the past five years had been subject to frequent spells of epistaxis, for which she had been treated by four physicians of Norfolk, frequently requiring the plugging of the posterior nares. Any slight cut would bleed excessively, and they were afraid to have her teeth extracted, she bled so. Two years ago had her ears pierced for earrings, and the hæmorrhage was so great they feared she would die. I found a stout girl, well grown for her age, but the complexion muddy, face puffed, no purpuric spots, though at times, her mother said, her face was covered with purple spots the size of a pin's point. She was bleeding freely from the left nostril. I gave her a potion of raw weed to chew, and had a strong infusion made, of which I gave her a tablespoonful every half hour. I made a plug of some of the weed and inserted it into the nostril; in fifteen minutes all bleeding had stopped. I called again at 10½ o'clock—no bleeding; at 1 o'clock—no bleeding. At 6 o'clock the grandfather called to see me, and said the child was up and playing about, and has continued so ever since.

# A CASE OF APHASIA.

By JULIAN M. BAKER, M.D., of Tarborough, N. C.

(Read before the Medical Society of North Carolina, at Durham.)

*Gentlemen of the Medical Society of North Carolina:*

I desire to report a case of cerebral injury, followed by hemiplegia, epilepsy and aphasia, in which the cerebral lesian was definitely located, and the mental impairment resulting therefrom closely recognizable. The case is of interest from the fact that it locates with as much certainty, as ne isolated case can, the faculty of articulate language, and demonstrates the fact that very slight injury of the cerebral structure at this point is sufficient to destroy entirely the power of artieulation. It corroborates, too, the more recent writers on the subject, proving the conclusions of Gall, Spurzheim and those advocates of Phrenology, as a science, to be erroneous.

A strong, vigorous negro man, 24 years of age, previously in perfect health, a farm laborer, received a lick over the head with a meat hook; immediately became unconscious, and suffered from concussion for twenty-four hours thereafter; after which consciousness returned, but with the inability to articulate.

The patient came under my charge with this history a month after the blow was received. At that time the scalp wound had entirely healed, the cicatrix indicating that it had been not more than an inch long. He presented a dull, morose, languid, sleepy appearance. He understood everything said to him, and, strange to say, seemed to appreciate any humorous allusion more than is ordinarily the case in health. His countenance would suddenly become aglow with mirth, and as suddenly lapse into the melancholy aspect it was before. He noticed everything which transpired around him, expressing his approval or disapproval by the motion of the head. His appetite was good and had been since the symptoms of concussion disappeared; bowels regular.

Upon physical examination the wound was found as above, and located on the line of the coronal suture on left side, and about two-thirds of the distance from the crown of the head to the point of union of the coronal and squamous sutures. The point was indicated by a diagram. I have attempted to indicate the sutures by the serrated lines; in other words, to show the different portions of the cerebrum lying beneath the different cranial bones. The point of injury from actual measurement of the external parts was found at this point indicated, which will be seen to fall within the third frontal convolution of the left side. There was right hemiplegia, with loss both of motion and sensation. The tongue was protruded normally, with no deviation whatever, to the paralyzed side. Deglutition was not interfered with. He had several epileptiform convulsions in the few days following his coming under my care, with a constant daily increase of temperature and decrease of pulse rate ; so that at times the temperature under the tongue would indicate 103° F., with a pulse of not more than 75 or 80.

With these facts presented, the diagnosis was made of cerebral compression with injury of brain membranes and brain substance at the point where the blow was inflicted, and following such diagnosis it was determined to remove the offending material. So, with the assistance of Drs. Williams and Floyd, of Tarborough, and the trephine applied, a button of bone about three-fourths of an inch in diameter was removed. This done, the weapon used was found to have passed through the skull bone, through the dura mater and penetrated the gray cerebral matter about the sixteenth part of an inch deep and wide. In fact, it hardly passed through the membranes. The character of the wound was just such as an ordinary pocket-knife would inflict. The bone was depressed and a slight hæmorrhage had resulted in the formation of a small clot around the wound in the dura mater. The projecting spicules of bone were removed, all the debris washed away, slight pressure on the dura mater with the finger, forcing such portions of the clot as were between it and the brain through the opening, where it was washed off with sponges.

The wound in the brain and membranes was left as it was found ; the scalp thrown over the opening in cranium and the edges united with silver sutures ; a sufficient opening was left for drainage and a dressing of carbolized gauze applied. During the night there was a rise of temperature and pulse and two convulsions. On the following morning Chamberlaine's coil was applied to the whole head, and a constant stream of ice-water at temperature of about 45° kept running through it. Except this no remedy whatever was used.

The patient continued to improve after the coil was applied, so that on the fourth or fifth day after the operation, on my entering the room, he arose from the bed, and, grasping a chair by the bottom round with the previously paralyzed hand, raised it in the air, but still unable to articulate, simply shook his head and smiled. His appetite and bowels continued in good condition, and there was a very satisfactory recovery from the operation. All signs of paralysis gradually disappeared. The power of speech not returning in like ratio, but continued for several months; gradually, though, the aphasia and aphonia gave way to a condition of amnesia, and this a year afterward had entirely disappeared, his health and speech being as good as ever, he being able to follow his avocation.

The wound made in the cranium has entirely closed with new bone, so that the last time seen by me I could strike at that point with a percussion hammer and find the resistance as great as any other portion of a negroe's skull.

I report this as a case of aphasia, as a result of traumatism, and do not consider the loss of speech due at all to paralysis, but to the impairment of the functional activity of the cerebral centre presiding over articulate language, and it corroborates those who locate this centre in the third frontal convolution of the left side. In this case the injury being to the postero—superior horn of the convolution.

I will not go into the case further, but refer those who take an interest in such matters to the various authors who have written on this subject in the last few years. I simply offer it as my quota toward establishing the truth of their observations.

# SHALL WOMAN PRACTICE MEDICINE?

Annual Address delivered by Dr. L. Julien Picöt, before the Medical Society of North Carolina, at Durham, May 20, 1885.

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*Gentlemen of the Medical Society of North Carolina:*

Since the revival of learning, and in isolated instances, even prior to that epoch, each revolving century has witnessed a new departure in politics, in war and in science.

The buried past is accredited its maximum of glory, and over its grave Progress unfurls her standard and shouts her battle cry, "Onward!"

The creed of the Gallilean fishermen has not escaped the inundation of the inrolling wave. Scientific research is still on the alert to find the missing link in the chain which must disconnect man from his celestial origin and give him a status with the beasts of the field. The rock-armed hand of Hugh Miller delivered a crushing blow, and for a while stayed the Development Hypothesis. But, like Banquo's ghost, it will not down.

It is proper and in good taste for men to combat human theories and to improve upon human inventions. In this way the matchlock has given way to the needle gun, the Culverin to the Armstrong, the giant Nile reed, through whose tube the Chaldeans attempted to read the mysterious movements of the orbs which gem the robe of night, to the powerful telescope of the modern observatory; the wooden hulls of monster ships to turretted and iron-clad monitors, military roads, along which marched the weary Roman legions, to those of fire, named by the French so aptly, over which rolls a motive power with force sufficient to draw in its wake over plains and mountains and rivers, with unflagging speed, safety and dispatch, whole armies, with all the requirements for bivouac and field.

The carrier-pigeon coos upon her nest while the electric current has become the postal courier of the world. Good old Ambrose Paré's simple ligature has spared the lacerated flesh and torn limb the additional torture of boiling oil or heated iron to stop the flowing blood. But when God speaks it were best for man to be silent than attempt to reason on "man's disobedience and the fruit of that forbidden tree which brought death into the world and all its woes." And to this pseudo-scientism, yclept Development or Evolution, we know no more stinging rebuke than that contained in these humble lines:

If we, as Mr. Darwin says,
  From monkeys are descended,
Old Time, in changing things, hath not
  As yet the matter mended.
Descendants of our ancestors
  Have no such times as they,
Who had no rent of house or tax
  Of government to pay.
No tailor bills came in—
  Dame Nature clothing gave,
And freaks of fashion did not make
  Of monkey girl a slave.
So the olden way 's the happiest way,
  The new condition fails;
And, Darwin, if you can, my boy,
  Just give us back the tails.
No hurrying out of bed had they—
  No bolting breakfast down—
No hasty walk or ride in fear
  Of some old patient's frown.
The lady monkey sat not up
  'Till day the night did rout
In waiting for the store to close
  And let her husband out.
They had no votes, 'tis true, but they'd
  No banking count to keep,
And o'er Bain Brothers cash account
  They never had to weep.
So the olden way 'is the happiest way,
  The new condition fails;
And, Huxley, if you can, my boy,
  Just lengthen out our tails.
They had no fashion's promenade,
  Where beauty's feet could stray;
But then the old boss monkey had
  No Doctor's bills to pay.
They had no wine, the monkey's young
  Through night to keep a storming;
They saved thereby (you know yourself)
  A headache in the morning.
A peaceful race were they, who ne'er

To war's appeal did fly:
They saved thereby occasions for
A Joint Commission High.
A smarter race were they than that
Which from them hath descended,
And Time, by changing things, hath not
As yet the matter mended.
For the olden way 's the happiest way,
The new condition fails;
So, Ingersoll, if you can, my boy,
Please give us back the tails.

Analogy, so say the writers on Logic, is an unsafe ground of reasoning, and still comparison is nearly allied to this kind of reasoning, and by comparison we attain all knowledge. Unless the authoritative precepts of Holy Writ be set aside and its teachings ignored, we take it for granted that any deflection from its lines of precept lead to pernicious results.

Say what you will about the fitness of things, and that the enlightenment of the age demands change, reform and advance in all its departments, yet the eternal truths promulgated from Sinai's top still must underlie the stratum of society. For instance, the great teacher, even Christ, lays great stress upon becoming shame and modesty in woman. Now, in the modern school of divinity, religion is found to be all æstheticism, for a reverend writer tells us of the drapery of holiness that surrounds the unveiled representation of a naked female form. But then, he alleges, it should be remembered it is a work of art, and this makes the magical difference between it and those vulgar imitations which draw upon their exhibitors the notice of police officers and grand juries. It is a creation, a birth (to use the lingo of the school)—it is a reproduction—it is the soul of the artist transformed to the marble—it is the pure ideal. But in the use of this transcendental dialect we forget the peculiar circumstances under which the child was born. It would be exceedingly gross to call to mind the well-known fact that it had for its sire the creative ideal of an artist not at all distinguished for spirituality, and derived its maternity from the actual of a disrobed Italian courtezan standing before him. We would throw wide open every legitimate door for woman's emancipation from the thraldom that has hitherto cramped her efforts or her energy to attain success in life. Yet there is a sphere in which she must move, or she is unsexed and becomes an object of contempt and scorn.

It is not every girl who can play the role of Taragossa's maid without exciting the ribald jest and incurring the blight of suspicion, or with Joan of Arc, clad in habiliments and riding like a man, go forth to battle and escape without a wound upon her chastity. Tenobia led the hosts of Palmyra and became the mother of an offspring across whose shield was affixed the bar sinister. Cleopatra marshalled the swarthy hordes of Egypt, and enticed the lord of the Roman world from the bed of his legitimate spouse. This question was freshly and practically illustrated recently:

During the session last summer of the Equal Rights Convention, a strong-bodied woman, with strong-minded views, entered a crowded street railroad car. An old gentleman rose to give her a seat, but asked:

"Be you one of those woman righters?"

"I be."

"You believe a woman should have all the rights of a man?"

"Yes, I do."

"Then stand up and enjoy them like a man."

The celebrated Mrs. Dr. Mary Walker, clad in tight trousers, frock-tailed coat and jaunty beaver, lately called upon Miss Cleveland, the Lady of the White House. She was accorded a brief interview, for the refinement of the lady was somewhat appalled at the sturdy bearing of the nondescript.

Very soon after the departure of the she doctor a Miss Man called to pay her respects. After a short conversation, Miss Cleveland remarked:

"Let me congratulate you, young lady, for I have just seen a woman who is anxious to be a man, and in you I see a Man who is content to remain a woman."

And this pithy remark strikes the key-note of the situation. There must be a dividing line between trousers and petticoats. Let us attempt to draw it.

This is a very peculiar age in which we live. No theory, however wild, but has its strong and earnest supporters. The old proverb, that everything is fair in war, finds its realization in free America and autocratic Russia. In the former the signal is given, and Westminster Abbey, Tower of London and Parliament Houses are blown to atoms by dynamite, involving in terrible death helpless infancy and hoary old age; in the latter the mandate issues, and the deadly dagger is buried in the heart of royalty. This resembles not the high emprise and gallant bearing of the chivalric knight, either in the lists of Ashley or the bloody field of Ascalon. Woman has come to the front in this death-dance of blood, and plays the role of assassination. She is not content to cull flowers in the literary world, but enters the political arena, and in offering herself as a candidate for the Presidency, presents a target for scurrility and defamation. I pity the man who leads her to the hymenial altar, and I am sure upon his gravestone will be read this very mournful inscription:

As father Adam was by woman fooled,
A case that's now too common—
Here lies a man by woman ruled—
The devil ruled the woman.
And who could expect any better?

In this modern march of advance a considerable change has taken place as regards the marriage sacrament. Free-loveism has its advocates, strange to say, principally among women. We are free to confess that we can see no very great difference between a harem of husbands and a harem of wives, and if there be any, the palm of decency must be accorded to the latter, as impregnable walls exclude their shame from public gaze, while the former parade the streets with the insignia of their infamy branded on their brows. There are isles of the sea, and a few circumscribed districts, both in Asia and Africa, where a plurality of husbands prevail, and we would be glad to see the free-loveites make their exodus to those favored regions, and no longer maculate the robe of American womanhood with their mildew breath of prostitution and licentiousness. It does really seem as if woman never departs from her legitimate sphere without exciting contempt or incurring suspicion. She offers herself as a warrior and fails; as a politician and meets a similar fate; as a preacher, and even the Quakers blush for her, as with uncovered head,

She tells in a piping voice of Heaven and Hell.

As a last resort for notoriety, she presents herself for medical and legal honors. The bar, of course, presents a tempting field for the display of woman's loveliest attributes. All of our criminals are hightoned gentlemen—all our trials at law purely civil. No man in this beautiful age stands arrayed for seduction or murder, but merely for not wearing cravats and pants *a la mode*. In the keen encounter of counsel no disgusting details, no low and dirty actions are brought to light, no words or language unbecoming a lady's ear are spoken by willing or wrung from unwilling witnesses. All the phraseology there employed is called from the Dictionary of Poetical Illustrations, and defendants and witnesses are merely unfortunate maidens, or sweet young gentlemen to be tried in the high court of love for an incorrect interpretation of a flowery emblem. We do not for a moment question woman's capacity to comprehend the technicalities of the law or the mysteries of anatomy, nor do we question the capacity of a gourd's holding water, only from long use and saturation it becomes rotten from watery contact. There is not a man in this audience, not a father in this State, who would not blush to hear his daughter plead for the acquittal of a seducer. His true manhood would be shocked, and he would hide his head in shame. Beautiful picture—refined and delicate lady talking billingsgate with thieves, burglars and murderers.

Let us shift the scene of her labors. How does she appear in the dissecting room, clad with oil-cloth aprons and armlets, knife in hand, cutting the dead man's flesh under the ghastly glare of gaslight? To every refined mind it is an appalling sight. Eugene Sue's description of the Ghouls visiting the deserted Roman Amphitheatre in quest of human remains left by the wild beasts, is scarcely less revolting. Novelists have made out women actors as angels of grace, but these are creatures of fiction. Will it be urged by reasonable people that the medical men fear her as a competitor in their profession, in any part or division of the profession?

She has wit enough to grasp all the diseases incident to frail mortality. She should have, at least, for she "first brought death into the world and all its woes." She has courage enough, for nothing more delights an unsexed woman than blood and agony. In the gladiatorial combats the loudest bursts of applause rang from coral lips over the lists when the ensanguined tear of the vanquished soaked the sands of the arena.

Swinborne, in Fanstine, aptly hits off this abortion when he makes God and the Devil throw high die for their soul:

"Your naked, new-born soul, their stake,
Stood blind between,
And God said, "Let him that wins her take
And keep Fanstine."
But this time Satan throve, no doubt;
Long since, I ween,
God's part in you was battered out,
Long since, Fanstine.
The die rang sideways as it fell—
Rang cracked and thin,
Like a man's laughter heard in hell,
Far down, Fanstine.
A suckling of its breed you were—
One hard to wean—
But God, who lost you, left you fair,
We see, Fanstine."

She has beauty enough and winning ways enough to render herself agreeable in parlor and hall, by the bedside or at the festive board. Helen only had to show herself on the balcony of Paris' palace when the Trojans grew weary of the war, to infuse new energy and enkindle new courage to despondent hearts; and we are told that even old men—hoary-headed fellows—would gaze with stupefaction at her incomparable loveliness, and exclaim:

"No wonder such celestial charms
For nine long years have kept the world in arms."

She has diplomatic talent to any emergency, let alone the securing of patients in our carnival of death. The Pompadour had only to whisper to Louis XV—only to part those ruby lips, and raise that arm, matchless for grace and symmetry, to set men tugging at each other's throats from the snow-plains of Arctic Russia, to where the Ganges flows under burning skies through fields of wondrous verdure. At her command households remained in wild terror as the war cry of the savage fell from the midnight's gloom, and black men in Sierra Leone closed in the deadly tug of mortal hate:

She loved the games men played with death,
When blood must pour,
And the slain man's blood and breath
Pleased Pompadour.

We think every intelligent member of our profession would gladly welcome woman to a participation of its honors and profit, if we deemed her fitted by nature to battle with its stern, and at times rugged, realities. Exposure to the cold of winter and the glaring heat of summer ill befit her physical powers. There are preliminary steps to be taken by every student of medicine before admission to practice, and woman was not intended to handle crude anatomical material. Praise her (and you cannot praise her too much) for a tender and skillful nurse—for delicate assiduity and heroic endurance by beds of pain. There are bones in the human skeleton which have escaped nomenclature, and there are diseases which no womanly woman could treat or prescribe for.* There is a parallel running through entire nature, and the closer we study her laws and the more rigidly we adhere to their decisions, the grander and more beneficent will be the fruition of our labors. A departure from them inflicts terrible results. God in the creation of every plant affixed to it not a peculiar locality, but a certain latitude, where it should attain its most perfect development, and a transplanting to a less favored clime dwarfs its growth or compels hot-house culture. The giant spruce of Norway, that battles with the icy breath of Arctic gales, becomes a pigmy when transferred to the sunny slopes of Southern hills. On the contrary, the luxuriant beauty of tropic growth pales and withers when it no longer feels the fierce heat necessary to its life. In the creation of animals, save those by a wise Providence essential to man's comfort and civilization, He has assigned each his limited and narrow area; and by a parity of reasoning it is just to conclude that as He has given to plants and beasts natural boundaries, so He has allotted to man and woman each a peculiar mental and social sphere in which to move. Woman is equally unfitted to handle the axe, the hammer and maul of the strong and hardy laborer as she is to wield the warrior's sword or manipulate the surgeon's knife. Nor would modern advance confine her to the drudgery of manual domestic life. There are brighter and nobler things to be done in home-life than washing cups and cooking food. In the finer and delicate traits of intellectual beauty woman is immeasurably man's superior. In literature, in painting and in sculpture, if she does not rank with Byron, with Rubens and Angelo, she occupies a very lofty and commanding position. In poetry, she has ennobled song by bursts of tenderest pathos; in painting, she has transferred to the canvas her own sweet ideals of delicate finish and beauty; in sculpture, she has carved the Lover and Graces with incomparable genius. Say what you will, it is not in strong fortresses, in frowning battlements, in torpedo-boats, in iron-clads, in disciplined armies that a nation's greatness consists. Nihilism is gnashing at the heart-strings of Russia, and will ultimately overthrow its absolutism. The strength and greatness of a nation consist in the affection of the governed for the government, in the high moral character of its people, in their sturdy, manful independence, in a race of men who know their rights, and knowing, dare maintain them. Three virtues are fostered in the home-life, and woman is its presiding divinity. Rome did not degenerate from her high renown under the teachings of mothers and wives like Lucretia—it was only when the times demanded a Juvenal to lay the thongs of his satirical lash, when women had unsexed themselves and unblushingly paraded themselves in the walks of men.

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* I was at the Penn Hospital a few years ago, in attendance upon a surgical clinic given by Dr. Thomas G. Morton, of Philadelphia. There were probably three or four hundred students present, a dozen or more of whom were female students from the Woman's Medical College. About fifteen or twenty minutes before the expiration of the hour Dr. Morton, who is a modest gentleman and a surgeon of high standing in Philadelphia, requested the female students to leave the amphitheatre. He wished to perform an operation not fit for female eyes.

Home, with mother presiding, is the birth-place of every noble and generous thought and action. Nowhere in the broad world are there more happy homes than in free and enlightened America, for nowhere have we a higher type of true womanhood. Home is the original institution for recreation. It was once in a garden, where there must have been quiet nooks and sleepy shadows. Brick walls are now used, because we need substantial materials between us and the tyrannical world. Home should be not only a shelter, but a sanctuary. Mountains may be tunnelled and continents cut into one; inventions may apply all science, and art may fill the earth with its triumphs, yet the metamorphosis of women into men is a monstrosity that nature abhors. God intended women for wives and mothers. She doctors can never meet the full required duties. The saddest spectacle of the world is these peripatetic dead souls around us. Dead they are—dead in hope and heart—dead to humanity, honor, God. See their footsteps! The grass withers and the flowers perish before them! See their foreheads! The sunshine is cold and pale upon them! The worms of the grave crawl over their hearts, and they dwell among us, cold and lifeless gravestones. If free government, if republican society, if prosperity, if schools, literature and religion should show their amplest and noblest fruits anywhere, it should be in beautiful, happy, joyous homes. It is not where man meets man, but where man and woman meet in the midst of loving children, that we are to look for the real import of human bliss, for the grandest development of womanly traits. Aside from these evils, there are other pernicious influences at work in our domestic society that threaten us with injury. One accustomed to observe the characteristics of the day, must have often noticed what a growing indisposition there is among women to submit to the care and duty of housekeeping, and how eager they are to throw them off. Time was when a home of your own was an object ardently desired, and hearts pledged to each other looked to the quiet companionship of its walls as the consummation of earthly bliss. A wife without a home was scarcely deemed a wife at all. Our old-fashioned mothers and fathers reasoned that if two loving souls united themselves in the bands of matrimony, a home was essential to rivet those bands firmly and closely around them. The honey-moon over, thither they went, and beneath their own roof found a genial occupancy for their time in the responsibilities of their daily tasks. And they were true to nature in the act, for married life demands, with the force of instinct, a home for itself. The heart of our country lives in its homes, and after all the rigmarole of woman's independence, the final test of institutions is in her domestic character at home. The world is an enjoyable place just so far as we render it tributary to our homes, and freedom is a blessing exactly up to the measure that we improve its privileges in forming ourselves after the divine ideal of noble men and women. Side by side stand the altar of liberty and the altar of home, and if Christianity has lighted their flames burning heavenward with steady strength of warmth and luster, let us not forget that it is from those flames that Providence brings the fiery swords which arm us for the highest achievements and our grandest victories. We study Providence on the great theatres of life, where men struggle, where nations rise and fall, where mighty agencies convulse the old order of things and fulfill the decrees of mercy or vengeance. But there is nowhere such a Providence as watches over the hearts and homes. Not only are children born there, but likewise all that is great and good. It is the divine nursery for science and art, for philanthropy and piety. Without it the wealth of the whole world could not enrich a single hand, nor its splendors confer lustre on a single brow. Here men and women are made most sensible of the image of God, here they are trained and disciplined to lofty aims and vast endeavors, here they are chosen and called, baptized, anointed, robed and crowned, here Heaven originates events and ordains victories, here poets receive their lyres, and chieftains are girded for conflict, and rulers are inaugurated for the obedience of mankind. It is a topic common to pulpit and press, and outlasting all others, is never exhausted. Home has created more fiction, written more songs, recorded more biographies, uttered more maxims, inspired more eloquence, and even fills a larger share in the Bible than anything else. Men never weary of it. The fireside, the old arm-chair, the cradle of infancy and the couch of age, the family table and evening parlor, have an immunity from the familiarity that takes the edge from novelty and the common-place tediousness that robs the mind of its elastic tone. Love renews its youth every day, and home is renewed with it. The household incidents of every hour do more to keep thought and hope alive in the soul than all the excitements of enterprise and ambition, and, despite of care and anxiety, they send a steady stream of vigor through motives and sentiments that would otherwise decay. The beautiful things that never die out of men's memories—never become superannuated—never have their morning light darkened or their earthly freshness exhaled, are heavenly witnesses to the noble immortality of pure affections. Whatever else this frail and feeble world fails in, it never withholds its princely revenues from the heart of love, for God is love, and He has made home and all in it to express this truth, and enshrined woman as His minister there. Value is not a term coined like money, out of the materials of the earth ; nor can the commercial exchange determine all questions of profit and loss. If the interests of our higher being are to settle the relations of all objects to us, then, indeed, it cannot be doubted that the sunshine and the rain, as they form the bow of God's promise in the sky, or the dew-drop, as it holds the firmament in its bosom, or the apple-blossom, as it falls to the ground, may contribute as much to the real advancement of our race as the more ostensible means that promote our outward good. Man is much more than a creature of civilization. The animal in him is not only to be tamed, and fed and clothed, but the glorious spirit breathed into him by Jehovah is to receive its share of life from the economy around him, and mature itself for an awaiting destiny. Man cannot live by bread alone. If he were confined to that food he would soon fatten into a devil. These are therefore golden seasons for the soul, harvests to be gathered not into barns, vines that lay no purple fruits, and yet lay their summer foliage over richer gifts.

The wide world is for the race as a race, but home is a superadded world for the heart, and as Jehovah in His ancient temple would have an exclusive chamber, adorned with superior grace for His selecter dwelling, so does man desire his home sacred from intrusion, with woman enshrined in its inner temple as its tutelary saint, its genius and its earthly God!

## REPORT OF DR. H. B. WEAVER, CHAIRMAN OF SECTION ON OBSTETRICS AND GYNECOLOGY.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

*Gentlemen of the Medical Society of North Carolina:*

When, at our last meeting in Raleigh, your kind consideration designated me as reporter of the progress in Obstetrics and Gynecology, we had no definite idea of the vast amount of research it required to present to this body of learned gentlemen a *readable* paper on this compound subject, between whose branches we fail to find any sharply defined line of natural division. Therefore, for convenience only, and not theoretically, we shall consider them somewhat separately.

### CONSERVATIVE PROGRESS.

In reviewing the current literature on these two branches of the subject, if there be one idea more than another which stands out in bold relief, it is the tendency of the profession towards *conservatism*, especially in Gynecology.

In a recent paper read before the Boston Gynecological Society by Dr. Bigelow, we find words so full of wisdom and so pertinent to this thought, that I shall reproduce some of them here. He says, in speaking of conservative gynecology:

"There are many reasons which conspire to make this otherwise invaluable specialty a matter of ridicule to many of our professional friends. In the first place, many men in country practice have delivered between one and two thousand women, some more and some less, without so much as knowing of the antiseptic rules which are now perplexing erudite societies, and without having to record a single case of puerperal fever.

"I know of two men, one in Maine and one in New Jersey, with such histories.

"Again, there are scores of general practitioners who are governed in their special practice by text-books, and they have lived to find that pessaries, as a rule, are humbugs; that intra-uterine injections are often fraught with much danger; that women may have dyspepsia and functional cardiac derangements without uterine troubles; oöphoritis, if treated with patience and persistence, may be relieved without recourse to surgery; and that many complaints of minor importance, which are the necessary outcome of any departure from a normal condition of a female sexual apparatus, may be overcome by the observance of simple rules, with recourse to elaborate interference; and a woman may be the happy mother of healthy children and enjoy an average share of good health, while carrying about with her a cervical laceration."

In Berlin, the metropolis of gynecology, we notice with satisfaction the impress already made on German literature by the gallant Landau, in his noble fight for conservative gynecology.

Says a noted writer in a letter to the *Journal of the American Medical Association* on this subject:

"I cannot help thinking that Dr. Landau's logic is conclusive, and that his conservatism is more scientific and of more permanent value than the unending round of operations that characterized German gynecology.

"I have heard it said that Americans were prone to resort over frequently to Emmet's operation, and I think there is truth in the assertion; but compared to the way in which cervices are amputated, in whole or in part in Berlin, for lacerations and erosions, which I am convinced could be treated more rationally upon the conservation plan, our operations are only as drops in the bucket. It seems to me that at this pace the number of women in Berlin with normally preserved uteri must be extremely small; indeed, the students have a saying that there is not a woman living in the same street in which Dr. Martin's hospital is situated, who has an entire cervix uteri."

### ANTISEPTICS.

There seems to have been a great reaction in the past year in regard to some of the antiseptic principles. That the adoption of *general* antiseptic rules in the treatment of wounds, especially in abdominal surgery, has been the means, chiefly, of the eminent success which has been attained by so many surgeons now admits of no question. But that Listerism has accomplished all that its autho and his followers have claimed for it, seems not to be so nearly proven as was a few years ago. Indeed, the question has been reopened, and the war continues to rage with unabating interest on both sides of the Atlantic.

Lawson Tait's great success in abdominal surgery seems to be due to nothing more nor less than his careful attention to every detail in cleanliness and maintaining absolute control over his patients.

Quite a number, if not a majority of American surgeons have greatly modified their views in regard to antiseptics; the larger proportion of them preferring bi-chloride of mercury to carbolic acid. That this is a superior germicide to carbolic acid, there is no doubt.

### OBSTETRICS.

We notice that the progress in this branch is characterized by more moderation and prudence than is exhibited in the department of gynecology.

#### *A New Method of Diagnosis of Pregnancy in its Earlier Months.*

Prof. Heager of Fribourg recognizes a peculiar softening suppleness and thinning of the inferior segment of the uterus, that is to say, the portion superior to the insertion of the sacroroterine ligaments, as a constant and positive sign of pregnancy. It can be easily recognized, not only when the uterus is resting as ordinarily, but when it is elastic and soft. The softness of the part is such as to cause the question, whether the neck be not simply in contact with a pelvic or abdominal tumor.

He knows of no pathological condition which could give rise to this symptom.

The cause of this remarkable sign is that the inferior segment of the uterus becomes the thinnest, softest and most elastic portion. It results, consequently, that in practising the rectal touch with abdominal palpation, it is possible to feel this portion between the fingers with the characteristics it presents.

### *Cocaine in the Uncontrollable Vomiting of Pregnancy.*

Dr. M. Weiss records in the *Prager Medicinische Wochenschrift* a case as follows:

A 28 year old woman being pregnant for the fourth time, was taken with vomiting three weeks after the last appearance of her menses (which was September 11th) and sought medical advice for its relief at the end of the second month. She was found to be much emaciated and anemic, keeping her bed for the past eight or ten days from debility and persistent vomiting. No food, even of a fluid consistency, would remain on the stomach.

No medicines seemed to give any relief, nutrient enemata could no longer sustain life, and the danger of death from inanition became imminent. November 7th the cocaine was given in the following prescription:

| | |
|---|---|
| ℞. Cocaine mur. q. s. to make a solution in wine of | 0.15 |
| Aqua | 150.00 |

Sig. a small teaspoonful every half hour. The first dose had a slightly bitterish taste, which, from the benumbing of the sense of taste, was no longer perceptible. Some minutes after the sixth dose, the patient took three tablespoonsful of milk, which was well received and was not vomited. After the eighth dose, the patient took with great pleasure a small cup of bouillon with an egg—no vomiting. At 2 o'clock P. M. thirteen or fourteen teaspoonfulls of solution having been taken, the patient was found to be cheerful and bright. She then partook of white meat of chicken and a glass of claret. She thought herself well enough to leave the bed. In consequence of these favorable symptoms the use of the medicine was left off until

4 o'clock P. M., at which time the patient vomited again, a part of what she had taken. Its use was then resumed and kept up until 8 o'clock P. M., when the patient enjoyed and retained some chicken and a glass of Pilsner beer. November 8th the rest of the cocaine was given in hourly doses. There was no vomiting through the day. November 10th the patient left her bed, and since then her conditions have been quite satisfactory.

### PUERPERAL FEVER.

The etiology of this disease at present is not fully determined, Leishman, Lusk, and many other eminent obstetricians differing widely in their definitions. Baker believes it to be an entity, while Thomas defines puerperal fever to be puerperal septicæmia. "It matters not," he says, "whether it assumes a form of phlebitis, cellulitis, lymphangitis, etc., the essence of the disorder is the absorption of the poison into the blood of the parturient woman through some solution of continuity in the tissues of the tract."

Dr. Thomas insists upon prophylactic measures in guarding against puerperal sepsis, and lays down ten excellent rules, the observance of which is well for lying-in wards, but is impracticable in private practice.

In practice, it seems to me, all that is necessary is prophylactic cleanliness, thorough emptying of the uterus after delivery, and insurance of uterine contraction. But when the inflammation has been lit up what shall we do? Shall we place our reliance on quinine, opium, stimulants or intra uterine injections—on one or all? The best obstetricians of the day make intra-uterine injections the most important feature of the *new* treatment.

But Dr. Thomas, concerning these injections, says that their use is attended by danger:

"The greatest hazard attending this plan is the entrance of air into the uterine sinuses; the next, the production of hæmorrhage by detaching some of the thrombi of the uterine sinuses; third, danger of forcing the fluid used as an antiseptic into the general circulation; fourth, the causing of convulsions, violent pain and nervous prostration; fifth, the passage of the tube into the fallopian canal, and the injection of the fluid into the peritoneal cavity." But these dangers, he finds, may be to a great extent avoided by attending to details:

(1) "By using a larger injecting tube—as large as the finger—which cannot enter into an open-mouthed sinus.

(2) "By using water warmed to 105°.

(3) "By injecting the fluid into the tube so as to exclude air before passing it up into the os-uteri.

(4) "By exerting only a moderate degree of force in throwing the jet against the uterine walls.

(5) "By proceeding with the whole affair gently, cautiously, slowly and intelligently."

The frequency of their use varies greatly with individual cases. In mild cases of septicæmia, when the temperature comes readily down after the uterus has been washed out, and rises very slowly, they need be used only once in five hours; in other instances every three hours they become necessary; and in bad cases we find that they are required once in every hour. As to the instrument employed, Dr. Thomas once shared the popular opinion of the profession, that nothing but a fountain syringe was allowable, as it threw a continuous stream; but he has now changed his views, and thinks an ordinary Davidson's syringe will more thoroughly cleanse the uterine walls. For this purpose he formerly relied upon the affusion of cold water, the patient lying upon a Kibbe's cot; at the present he accomplishes the same result much more easily and more pleasantly for the patient, by the use of Townsend's rubber-tube coil. In this he has most implicit confidence. It consists of a mat composed of rubber-tube rolled upon itself in a circle, and which covers the whole of the abdomen from ensiform cartilage to the symphysis pubis; by syphon action ice-water is made to run through the tube over the body of the patient into a tube on the floor. By this means Dr. Thomas claims that a temperature of 104° can very readily, as a rule, be kept at 100° for weeks together.

Dr. Thomas also aims to keep the nervous system under control by febrifuge medicine so as to control the tendency of chill pyrexia. For this purpose he thinks nothing equal to quinine. In regard to antiseptics, Dr. Thomas is strongly in favor of bi-chloride of mercury.

In speaking upon this subject, Dr. Paul F. Mundé remarks that he has "always believed that in the majority of cases puerperal fever is puerperal septicæmia, and is due to absorption of poisonous matter from the genital tract." But he does not make this the cause for *all* cases; that is to say, he inclines somewhat toward the view that puerperal fever may be a disease by itself, and has seen cases in which there was no evidence of septic absorption. With regard to intra-uterine injections, he does not agree with Dr. Thomas—he thinks he does not sufficiently point out the exact indications for their use. It will not answer, he advises, to simply say that every time the temperature rises, or there is a fetid discharge from the vagina, the uterus must be washed out; there must be more exact indications. He mentions a case from his practice in which there was a rise in the temperature to 103°, but there was no fetid lochia. This was about the time for the beginning of the secretion of milk. In this instance he did not inject the uterus, the temperature fell under the influence of quinine and aconite, and a subsequent progress of the case was favorable.

Dr. Munde claims that ordinary lochia is not necessarily septic, and the genital tract is not necessarily in the condition of laceration, or in a condition favorable to the development of puerperal septicæmia; that it has been demonstrated by Ahlfeldt that the most poisonous lochia was entirely inoffensive; and further, he believes that no primipara is delivered without some lesion of the genital tract, while of multipara there is, in his estimation, probably not a case in which there is not some laceration about the cervix.

As to the manner of giving intra-uterine injections, Dr. Mundé does not agree with Dr. Thomas at all. Indeed, he has met with cases in which Davidson's syringe, in competent hands, has produced the most severe collapse. He objects to propelling a stream of water with force into the puerperal uterus, and thinks also there is a time when injections are no longer useful.

With reference to para- and perimatritis during the puerperal state, he advises: "*Do not wash out the uterus.*" As to the drug to be used for injection, he is inclined to favor bi-chloride of mercury solution one to two thousand.

Dr. W. M. Polk considers this disease as identical with septicæmia or surgical pyæmia; and that the variations that exist in its clinical history or in the pathological lesions, are simply those which are peculiar to the organs invaded. With respect to precautionary measures, in his opinion there can be nothing added to the rules given by Dr. Thomas. As to the actual treatment, the firs thing to do is to wash out the uterus. If, however, this means does not reduce the temperature, he uses the wet pack, and gives quinine and salicylic acid at the same time.

Dr. Garrigues adopts pretty much the same treatment as Dr. Thomas, except he uses a tube with an open end and smaller calibre than the Chamberlain.

Concerning the antiseptic used, he finds that bi-chloride of mercury presents great advantages over carbolic acid: "First of all, it is a more reliable disinfectant; next, it is free from odor itself, but is an excellent deodorizer, and even from an economical standpoint, this new treatment is a great improvement."

Dr. Wylie's views are essentially those of Dr. Garrigue.

My plan of treatment is about as follows—as precautionary measures:

(1) I insist on thorough cleanliness.

(2) I administer ergot just before the end of the second stage of labor, to insure contraction of the uterus and expulsion of the placenta.

(3) Never cease until I have removed every particle of the secundines in some way or other.

I give only two cases, which must suffice as illustrations of my mode of treatment.

Mrs. J., aged 20, primipara, was delivered by a midwife. Three days afterward I was sent for. On my arrival I found the woman in a sad plight. Her clothing and bed were saturated with the remains of the fluid portion of the secundines. The fetor was terrible. On examination I found the pulse 130, quick and wiry, temperature 104°, tongue heavily coated, the abdomen was very tense and painful to the touch.

On vaginal examination I found offensive putrefying clots, which I removed. There was partial delirium. I at once thoroughly washed out the vaginal tract with hot, carbolized water.

The following prescription was then given:

| | |
|---|---|
| ℞. Jaborandi fluid extract | |
| Spts. nit. dulc. | āā ℥ j |
| Tinct. aconite | gtts. xvi |

M. sig.—Teaspoonful in a little warm water or ginger tea—repeated every half hour till free perspiration.

The second dose had the desired effect, and in less than half an hour the patient was perspiring profusely, with severe salivation. After the profuse diaphoresis had ceased, I gave a laxative of calomel, aloes and ipecac, to overcome the constipation. Two hours later the fever had fallen 2°. The kidneys had acted. I ordered the nurse to continue the hot water injections three times daily. Also to give the jaborandi mixture in half teaspoonful doses, in order to keep up moderate perspiration, and if the fever rose, the skin got dry and hot and the patient thirsty, to increase the dose to teaspoonful. On my return in twenty-four hours afterward, I found patient much improved.

About half the mixture had been taken. The pulse was now 98, the temperature 100°, the pain and swelling almost gone. Her mind was now clear, and she wished food. Kidneys continued to act freely, bowels moved, lochia established. The same treatment was continued. The case progressed favorably, and the patient was convalescing. In a few days afterward the same midwife attended Mrs. E. in her fifth confinement. Two days later I was called to the case. I found her with an intensely hot fever. Thirst urgent. Tongue heavily coated, with constipation. The temperature had reached 104½°, pulse 140 and feeble. Great anxiety existed. There was extreme pain in the lower part of the abdomen, which was tense. An examination per-vaginam revealed a small laceration of the vulva. There was a small quantity of fetid lochia.

I adopted the same treatment as in the former case, and in three days all symptoms of septicæmia were gone.

Now the *rationale* of this novel treatment I do not pretend to explain. But it has proven so successful in my hands in so many cases, indeed, in all my cases of puerperal fever, that I shall continue to use it so long as it yields such gratifying results.

### TREATMENT OF ABORTION.

As regards the prophylactic treatment, the experience of your reporter coincides with the opinion of Dr. Byford, of Chicago, that there are two clinical facts with the habits of abortion :

(1) When uterine contractions were the prominent symptoms, absolute rest, opium and viburnum would arrest the abortion.

(2) When hæmorrhage was severe all efforts towards arresting the process would prove futile.

Concerning the treatment of inevitable abortion, Dr. Warren

Sawyer, of Chicago, has followed the expectant mode. He believes in the wonderful conservation of nature in these cases, and waits, and allows her to affect the expulsion of the product of conception. He has waited as long as one week.

Dr. J. T. Neilson, of the same city, has no sympathy with the expectant plan of treatment. He never rests till the uterine cavity is empty.

Dr. W. W. Jaggard, in a paper on this subject, thinks the weight of evidence lies in favor of the so-called "*radical treatment.*"

The plan recommended by Dr. Mundé in the *Journal of Obstetrics* is perhaps the best one to follow:

"When the abortion is inevitable, empty the cavity of the uterus at once. For this purpose the fingers are preferable to the instrument. With one or two fingers within the uterus and the other hand on the fundus, we can usually effect the removal of the contents."

But sometimes the walls are so thick and our fingers so short, that we can only touch the ovum and membranes. Then we must resort to instruments. In the selection of these Dr. Mundé's curette or Dr. Cheatham's scoop are to be preferred. We will have little difficulty in turning out the uterine contents with safety and expedition. But when the uterus is not dilated nor *dilatable*, and the hæmorrhage severe, we should, according to best authority, plug the os with tupelo tents.

And here Dr. McLane's injunctions are apropos: "*Don't tampon the vagina; don't apply ice anywhere.*" Dr. Mundé uses the antiseptic injections only when the discharge from the uterus and vagina is offensive. If there are symptoms of septicæmia, and the temperature is unaffected by the use of these injections for twenty-four hours, he thinks they no longer do any good, and then uses sodium salicylate, 10 grains every two hours.

## MANAGMEENT OF THE THIRD STAGE OF LABOR.

As to the proper method of conducting the third stage of labor, experienced and learned obstetricians are still at variance.

It seems that the teachings of the best schools of America and Germany are favorable to the plan of early interference. Dr. Hodges advised moderate traction upon the cord at the end of a half hour or hour, and Dr. Meigs stated that he never waited for the spontaneous extrusion more than an hour and a half, for he always supposed that if it would not take place in one hour there were little prospects for its taking place in twenty-four.

Dr. Parvin, who does not altogether sanction this early method of procedure, in writing on this subject says in the *Philadelphia Medical Times:*

"In studying the phenomenon of placental delivery, we find there were three stages, viz: First, the separation of the placenta from the uterus; second, its extension from the uterine cavity; and third, its expulsion from the vagina.

"A practical question is here presented: Is this separation facilitated by ligating the placental end of the cord? In other words, ought the obstetrician to use two ligatures or one? The advocates of two ligatures claim that in this case the placenta being larger, fuller and firmer, cannot so well follow the retractions of the uterus as it can if thin and flexible from loss of blood, and therefore in the former case is more certain and completely detached.

"Few practitioners now are willing to trust nature, but guard against the delay of the delivery of the placenta by adopting the Credéan method of expression, keeping the hand on the uterus at least as a sentinel to warn of uterine relaxation, and better still, as a stimulant to, and reinforcement of, uterine contraction.

"A general observance of this practice reduces to minimum cases of post-partum hæmorrhage and of hour-glass contraction."

Now a practical lesson is presented from the study of the mechanism of placental delivery.

If Drs. Duncan and Parvin are correct in their views of marginal presentation, traction upon the cord is mischievous, for it interferes with normal presentation; but if the French school be correct in their views, that the normal presentation is that of the fœtal surface, such traction facilitates the second stage of delivery.

In the early practice of your reporter the expectant plan of delivery was adopted, but not being satisfied with the results of this method, I determined to adopt a different method of treatment. Accordingly I ventured to try the method recommended by Prof. Credé, though contrary to the advice of older writers. The experiment was crowned with such immediate and satisfactory results, that I determined to practice no other. Since that time I have boldly practiced the so-called "radical plan" of immediate removal of the placenta by gentle traction and expression, and in the last 290 cases have not had a fatal issue.

### TREATMENT OF UTERINE HÆMORRHAGE.

At a meeting of the National Medical Association, held at Columbus, Ohio, Dr. J. R. Borland reported a case of uterine hæmorrhage of twenty-five year's standing, which was successfully treated with Extract of Pinus Canadensis.

Dr. Landau, of Berlin, successfully treats hæmorrhage from the uterus with a strong solution of per-sulphate of iron injected into the uterine cavity. In 500 cases Dr. Landau has had but one case of uterine colic. He never uses intra-uterine injections of ice-water because the effect is only temporary. He has frequently used the hot-water injection, but prefers liq. ferri. Dr. Martin injects almost boiling water into the uterus, and then takes a stitch through the cervix to keep it in.

### TARNIER'S BASIOTRIBE.

The breaking up of the fœtal head has remained, despite the many proceedings which have been proposed for its execution, one of the most difficult and laborious operations which the obstetrician is obliged to perform. The cephalotribe is, no doubt, an instrument which will crush the matter brought within its blades, but when a fœtal head is retained above a contracted brim, it is difficult to place the blades in such a manner as to seize the base of cranium.

"In 1883 (December 11th) Prof. Tarnier brought to the notice of the Academy of Medicine a new instrument for crushing and withdrawing the head to which he has given the name of basiotribe. It unites in one apparatus the advantages of the cranioclast and cephalotribe; like the former, it seizes the head and fixes it immovably, and it resembles the latter in its powerful crushing capacity. Tarnier's basiotribe consists of three branches of unequal length and a crushing screw. Its total length is 41 centimeters; when it is articulated and closed its width is 4 centimeters; from front to back it measures 4½ centimeters; its weight is 1200 grammes."

For a complete detail of the method of its application and result we must refer you to the January number (1885) of the *New York Medical Abstract.*

Suffice it to say that the great merits of this instrument consist in the fact that after the perforated and first blade are introduced, the *first* crushing of the process is accomplished, when the other blade is introduced the second part of the process is completed. Then, all three of these handles being articulated, it only remains to screw them up and the basiotripsy is completed.

### LAPARO-ELYTROTOMY.

In the NORTH CAROLINA MEDICAL JOURNAL (February, 1885) appears a report of a successful case of laparo-elytrotomy by Dr. Alexander J. C. Skene being the ninth on record, four of which had been performed by this surgeon. Of these four three were successful operations, both mothers and children being saved. Dr. Skene is convinced of the superiority of this operation over the Cæsarian section.

As to the method of operation, the usual incision was made in the left groin. The epigastric artery was secured by Pean forceps, and, after reaching the wall of the vagina, a small incision was made, and this was enlarged by tearing it. Some little time was lost in effecting complete dilation. A living male child, fully developed, weighing seven pounds, was delivered by version and extraction through the wound in the groin. The placenta was delivered by contraction of the uterus, aided by external manipulations. The operation wound in the groin was closed by carbolized silk sutures, a soft rubber drainage tube being carried from the inner angle of the incision downward through the vagina. The after history of the case presented no untoward features. There are certain practical points in regard to the operation to which Dr. Skene directs attention. First, it is all important to have sufficient dilatation of the cervix before the beginning of the operation. Second, in regard to the anatomy of the region involved, his recent operations confirm his former views, that the "only safe guide to the surgeon in his dissection is a thorough familiarity with the appearance of the various organs and tissues, which enables him to recognize the structures as he meets them." Third, that the fear of "danger from hæmorrhage in laparo-elytrotomy is not justified by experience." Fourth, much care is necessary to save the bladder, "in fact," he says, "wounding the bladder is the only accident that has happened" to him in the operation. "In conclusion," he says, "I can only express the hope that this operation will soon become more generally resorted to, especially in those countries where there are so many more unfortunate mothers the subjects of similar deformities."

## GYNECOLOGY.

### *Is the Extirpation of the Cancerous Uterus a Justifiable Operation?*

This is still a mooted question. The German school maintains the affirmative, while the Americans argue in the negative.

The Berlin correspondent to the *Journal of the American Medical Association*, writes:

"During the last three years Dr. Martin has extirpated the cancerous uterus per-vaginum 58 times, and his assistant, Dr. Durelius, 4 times. Out of these 62 cases there were only 5 deaths, and these happened sometime ago, when the operation was a comparatively new one; so now a fatal result is very exceptional. "Such results are among the triumphs of modern surgery."

Dr. Schrœder says that he cannot believe with Americans, that extirpation of the uterus is a needless and dangerous operation. He has had only 25 per cent. of deaths in his cases, and if we do not extirpate the woman will die anyway.

Dr. A. Reeves Jackson, in a reprinted article from gynecology transaction on the above subjects, gives the following summary, which fully reflects the American mind:

1. Diagnosis of uterine cancer cannot be made sufficiently early to insure its complete removal of the uterus.
2. When the diagnosis can be established, there is no reasonable hope of radical cure; and other methods of treatment far less dangerous than excision of the entire organ, are equally effectual in ameliorating the suffering, retarding the process of the disease and prolonging life.
3. Extirpation of the cancerous uterus is a highly dangerous operation, and neither lessens suffering, except in those it kills, nor gives reasonable piomise of permanent cure in those who survive the operation.

## *Rapid Dilatation of the Uterine Canal.*

Dr. William Goodell, at a stated meeting of the Obstetrical Society of Philadelphia, remarked upon this subject:

"For many years I enlarged or straightened the uterine canal according to the requirements of the case, either by tents or Sims' operation, preferably by the former. Having had several serious warnings in the shape of inflammation following these operations, I began to perform them with fear and trembling. Yet nothing untoward happened till the year 1878, when two serious mishaps befel me—a death from septicæmia, after Sims' operation, and one from peretonitis, after dilating with the tent and using the curette.

In search for a substitute for these methods he resorted to rapid dilatation, and says "it has proven so safe and efficient an operation that I wish to urge its claims before the Society." The instruments which Dr. Goodell recommends are two Ellinger dilators of different sizes. These are best on account of the parallel action of their blades.

For a minute description of the operation I must refer you to Dr. Goodell's excellent paper in the *Journal of the American Medical Association.*

Your humble scribe can add his testimony to what has been said in reference to rapid dilatation of the os by Dr. Goodell. I have successfully treated several cases of dysmenorrhea with flexion by this method. One case, in particular, of twelve years standing, is now completely relieved from her suffering, which was so excruciating at each recurrence of the menstrual period that it wholly unfitted her for any duties whatever. I use, however, Nott's dilator, which seems to answer every purpose for ordinary stenosis, with the characteristic "pin-hole" os.

## *Uterine Displacements.*

Perhaps in no other department of gynecological practice has a subject been more thoroughly considered than treatment of uterine displacements, and although much has been achieved in this direction by study, still there remains much diversity of opinion in regard to the propriety and method of such treatment. In a recent paper read before the Gynecological Society of Boston by Dr.

Augustus C. Clarke, of Cambridge, in regard to pessaries, appears the following:

"Without attempting to wade through the history and description of these several singular contrivances, I would state that the main design, in theory, at least, in the treatment of uterine flexions, is to place the unimpregnated uterus of a woman otherwise healthy, in such a plane or position in the pelvis that the circulation of that organ shall be unobstructed."

Dr. Clarke's opinion in regard to treatment is that a tampon of glycerine and tannin, coupled with good tonic constitutional treatment, will do more in relieving the distressing symptoms of a displaced uterus than any other method of procedure. The glycerine he advises according to its well-known action—abstracts fluid from the thickened and œdematous parts, while the tannin, by its astringent power, gives support to the vaginal and uterine wall.

Dr. Robert G. Bell, of Glasgow, recommends alum, instead of tannin. According to this author, the tampon, when saturated with a solution of alum and glycerine, and applied to flexions and versions, acts in three different ways:

1. As a support.
2. As a depleting agent.
3. As an invigorating agent to the uterus and vagina.

Dr. Clarke, in his interesting paper, details several cases he endeavored to cure with different pessaries, but gave them up one after another, as they disappointed him, and found more permanent relief in the medicated tampon.

Matthews Duncan, in speaking of the use of pessaries, remarked that he never used one on any ground in a virgin; as to the benefit of ante-version pessaries he expresses no belief; but thinks that if they do good it is not by keeping the uterus straight, it is by preventing further descent of that organ. He further remarks that he has never used an anteversion pessary, as he has never seen any good from their use.

Dr. Emmet is of the opinion that it is only in retroversion and prolapse that mechanical means do any good.

According to Dr. Vedler (Archiv. für Gynekologie), who examined 3,012 women of the menstrual age, there were only 18 suffering from prolapsus; in the remaining 2,994 the uterus was found normal in only 15 per cent., it was anteverted in 12 per cent., retroverted in 10 per cent., and anteflexed in 54 per cent. Emmet early recognized that versions may exist for an indefinite period without causing any disturbance, and it is only when the circulation is obstructed that discomforts arise.

## *Treatment af Fibro-Myomas of the Uterus by Laparotomy.*

In the *Journal of Obstetrics* we find a summarized paper which was read by Dr. Kœberle at the International Medical Congress, upon the above subject. He said:

"The indication for laparotomy depends upon: 1. Excessive and protracted hæmorrhages and a rapid and continuous growth of the tumor. 2. The more or less advanced age of the patient, the farther removed the patient is from the menopause the earlier the operation will be indicated. 3. The site of the tumor—those located in the lower segment of the uterus or in the broad ligaments always offer an unfavorable prognosis for operative interference. 4. Special conditions, when the tumor makes life a burden to the patient. The operation is *contraindictated* when extensive vacular adhesions exist between the tumor and the anterior abdominal wall; when the tumor is wedged in the lesser pelvis; when there is ascites, which tends to increase and reproduce itself rapidly; when there are present incurable diseases, or such as may jeopardize the progress of recovery. Regarding the *method of operating,* the incision should always be made in the median line. When the incision extends beyond the navel the latter is excised. In pedunculated tumors the pedicle is simply ligated (in two or more portions) and dropped. Comparatively small, limited sessile tumors can be enucleated and the wound then united linealy with dropped sutures. This method, which Kœberle has employed since 1878, gives no absolute protection against hæmorrhage, and should be resorted to only in exceptional cases. The large tumors can be removed only with partial or total extirpation of the uterus. These cases are divisible into two classes, in one of which the tumor extends no farther than the internal os, and is not adherent to the ligaments; the other in which it reaches into the cervix or has developed subperitoneally. The former class of tumors can be operated on in various ways: usually Kœberle isolates the uterus on both sides by a series of dropped sutures, applies two metallic ligatures to the cervix, tightens them with serre-nœud, removes the tumor and fastens the stump in the abdominal wound by a transfixing needle. In this manner the author has operated on about 50 cases. The mortality is about the same as in the extra-peritoneal ovariotomy operation, 5 to 10 per cent. It would be better if the pedicle could be developed, but Kœberle fears that thereby the hemostasis could not be certainly established. When the tumor is situated in the broad ligaments the operation is almost invariably fatal.

### *The Treatment of Fibro-Myomas by Electricity.*

The more conservative method of treating fibro-myomas by electricity is beginning to compare favorably with its bolder rival, the bloody operation. The former method of applying a *weak, interrupted* current, and the active pole only within the vagina is now superseded by the application of an *intense, constant* current with the active pole within the uterus. The advocates of this new method of procedure claim for it a great superiority over the former.

Dr. Apostolie, of Paris, records more than 100 cases in which recovery was complete. The tumors did not disappear altogether, but they atrophied and shrank away.

### *Oōphorectomy vs. Myomotomy for Uterine Fibromata.*

In comparing the advantages and results of these two operations for the cure of uterine fibroma, oōphorectomy seems to have the weight of argument and clinical experience in its favor.

Dr. Wiedow, who spoke on this subject at the International Medical Congress, had collected the entire number of oōphorectomies thus far performed for uterine fibroma. His main object was to show the influence on the arrest of hæmorrhages on the atrophy of the tumors. The total number of operations collected were 149. Of these 11 per cent. died of the results of the operation. Of the remaining number 49 were under observation for a year, with the following results: In 36 cases the menopause and diminution of the tum r were produced; in 3 cases menopause (no report of tumor); in 8 cases diminution of the tumor, with slight irregular hæmorrhage; in the other two cases no report of the tumor in one case, with slight hæmorrhage; in the other no report of the hæmorrhage, with diminution of the tumor. These results may be called excellent. Altogether, it appeared to the author of these statistics that oōphorectomy must occupy the first rank, and myomotomy, with a mortality of 33 per cent., the second position. According to the experience of Drs. Wiedow and Hegar myomotomy must be restricted, first, to fibro-cystic tumors; second, to pedunculated subperitoneal tumors, in which the disposal of the pedicle is easy. For cervical myomas, Prof. Hegar thinks the removal by laparotomy gives very bad results; for these he recommends oōphorectomy altogether. In regard to the question whether oōphorectomy or myomotomy is preferable, Hegar occupies the same standpoint as Wiedow. In conclusion, these reports seem to show the error of Lawson Tait's view, that the extirpation of the entire Fallopian tubes is the main thing in the treatment of uterine myoma.

### *Pyosalpinx.*

This seems now to be a recognized disease in gynecology. Lawson Tait has the honor of first pointing out the symptoms and treatment of this disease. According to his views it is a chronic inflammation of the Fallopian tubes, caused most usually by an attack of gonorrhœa. In delivering a clinical lecture in Bellevue Hospital in last October he remarked:

"Until I pointed it out some four or five years ago, the fact was not known, or, at least, had been completely lost sight of, that gonorrhœal inflammation spread along the Fallopian tubes and gave rise to immense mischief."

The tubes become inflamed and occluded, and the risk to life, he thinks, in pyosalpinx from rupture of the tube and discharge of pus into the peritenum, is very great—so great, that the accident occurs in about 50 per cent. of the cases. The method of operating for the cure of pyro- or hydrosalpinx is by his usual abdominal incision. He cautions against operating from below, as some advise; indeed, he thinks it is dangerous.

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CORRECTIONS OF ERRORS IN MINUTES OF STATE MEDICAL SOCIETY. Dr. George G. Thomas' name should have appeared as a member of Committee on Nominations in place of Dr. W. D. Hilliard, elected to fill vacancy on North Carolina Board of Health.

Exhibition of bone from spleen, and shot from vermiform, and two successful operations on cataract under the influence of hydrochlorate of cocaine, credited to Dr. Harriss, should have been credited to Dr. J. M. Hayes, of Oxford.

# REVIEWS AND BOOK NOTICES.

A TTEATISE ON ASIATIC CHOLERA. Edited and Prepared by EDMUND CHARLES WENDT, M.D., in association with Drs. John C. Peters, of New York; Ely McClellan, U. S. A.; John B. Hamilton, Surgeon General M. H. S., and George M. Sternbarg, U. S. A. Illustrated with maps and engravings. New York: William Wood & Co., 56 & 58 La Fayette Place. 1855. Pp. 403.

If America is not well prepared to meet the expected visitation of cholera this year, it is not for lack of sanitary and literary energy. The medical and sanitary journals have been very active in disseminating knowledge and Boards of Health in many States and cities have issued circulars of advice and instruction on the absorbing topic. Here we have an example of a book written to order for the publishers, on the great topic of cholera, and to be ready by a certain time. Fortunately for the editor, he had the coöperation of Dr. J. C. Peters, the eminent epidemiologist, and the assistance of others mentioned on the title page, and the book was promptly issued. It is surprising, therefore, that it should be a case of successful book-making.

Part I. considers the history of epidemics, beginning with the great epidemic in India of 1817, and concluding with the epidemic in France, Italy and Spain, in 1884.

The second section of this part of a volume gives a history of epidemic cholera as it affected the U. S. Army.

The etiology, symptomatology, course, duration, mortality, complications and sequelæ of cholera are by Dr. Wendt, as also the part on the morbid anatomy and pathological histology of the disease, and diagnosis, prognosis and methods of bacteriascopy.

The prevention of cholera by the destruction of cholera germs is by Dr. Sternberg, and the prevention by public health is by Dr. John B. Hamilton.

The "Doctrine of Koch," promulgated as late as 1884, occupies eighteen pages. In these times of rapid interchange of knowledge these experiments of Koch seem to be already old, so strong a hold have they taken upon the public confidence. The researches since Koch's announcement are given at length, followed by the cholera-bacillus controversy, and the editor's conclusions, the last two paragraphs of which we copy:

"The great credit belonging to Koch consists in the fact that he has pointed out to us the paths along which future inquiry must go. We are to-day able, thanks to his excellent technique, to pursue bacteriological researches with much greater accuracy and definiteness than was possible even a few years ago. As with tuberculosis, Koch's discovery of a distinct organism has given us clearer views, so it is likely to be with cholera.

"It is true that we have not been able to ascertain the full truth. Future views and conceptions concerning the intimate nature of cholera may vary as much as past ones have done. But when the history of cholera shall be written, fifty years hence, it will have to be stated that Koch's discovery of the comma-bacillus constituted a decided step in advance in the pursuit of scientific truth."

The directions for treatment we find to be well considered and told in a straightforward common-sense way.

The author has not failed to notice the inoculations made by Dr. Ferran for the prophylaxis of cholera, but we are sorry to see that he lends his influence to the use of the word "vaccination" to convey the idea of this inoculation. As to Dr. Ferran's attempts "not proven" stands written against them. There is no crucial test to demonstrate the efficacy of inoculations of (supposed) cholera bacilli for the prevention of cholera, and there is no ground, so far, upon which to base a favorable opinion of it: we can only hope for more light.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by WM. PEPPER, M.D., LL.D., Assisted by LOUIS STARR, M.D. Vol. II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co. 1885. Pp. 1312.

Now that the second volume of this System of Practical Medicine is completed, and we have had more opportunity to become better acquainted with the first, we are convinced that America has at last achieved the much needed work of a thorough and systematic practice of medicine, and achieved it in such a creditable way, that it must for years to come be *the* practice. In saying this we do not forget the very valuable works on practice by Flint, Loomis &

Bartholow. The aim of the volumes by the last named authors is more as compendious text-books for indoctrinating the student in the elements of pathology and practice, while the work under notice is a voluminous reference book. In the former volumes all of the teaching is marked by the individuality of their authors, in the latter the subjects are from the press of writers of admitted reputation, the whole under the editorial management of Prof. Pepper.

Among the subjects treated which attract our especial attention is that on the "Intestinal Affections of Children in Hot Water, by J. Lewis Smith, M.D." It is a most welcome article in such a treatise, and the subject has been written afresh and with full knowledge of the advanced position the profession has been able to take by reason of the accumulating knowledge of the digestive ferments, and infant dietary generally.

This volume has a copious index. It comprises 127 pages, and serves as tolerably complete analysis of the contents. This is in such strong contrast to many recent scientific works that it deserves to be particularly noticed, as it enhances the value of the work greatly.

There are many striking matters in this volume that we had marked to quote, but we forbear, feeling quite sure that the purchasers of the work will be numerous, and that it will not be long before every good library will number it among its treasures.

THE OLEATES. AN INVESTIGATION INTO THEIR NATURE AND ACTION. By JOHN V. SHOEMAKER, A.M., MD., etc., etc. Philadelphia: F. A. Davis, Atty., 1217 Filbert Street. 1885.

This is a reprint of an essay several times revised by the author, and presented in this booklet form, in clear type, rescues it from that neglect which, as a medical journal article, it would be likely to receive. Dr. Shoemaker was one of the early contributors to the therapeutics of the oleates.

The author's estimate of the oleate of quinine is very much at variance with that of the present writer. While it is admitted that the oleate of quinine would not be relied upon if the alkaloid could be given by the mouth, it serves a very good purpose, even if in a limited way. The writer has repeatedly detected quinine in the urine of selected patients treated with the oleate, and admits that many times more he has failed.

The oleate of cocaine receives mention, but in the hands of the author it has been only slightly effectual as an anesthetic, and this opinion is no doubt correct.

URINARY AND RENAL DERANGEMENTS AND CALCULOUS DISORDERS. HINTS ON DIAGNOSIS AND TREATMENT. By LIONEL S. BEALE, M.D., etc. Philadelphia: P. Blakiston, Son & Co., 1012, Walnut Street. 1885. Price $1.25.

Dr. Beale's great merit as a teacher is the practical application he demonstrates through his whole work. This volume, at every turn, is studded with practical suggestions on matters of physiology and therapeutics, which, apart from the subject matter, is highly instructive. The work itself is written in a highly philosophic spirit, and for many reasons is more to be desired than many of the works of a similar character, which, by the way, have of late years been numerous enough to confuse one's memory.

This volume is published simultaneously with the London edition, by special arrangement with the author, and is creditably well reproduced, as is usual with the Messrs. Blakiston.

One practical matter came under our notice in reading this book, which we think it well to call to the attention of our readers. It is as follows:

"I feel that by many writers too much has been made of the indications for treatment afforded by urinary deposits. Many cases of what has been called the "oxalic acid diathesis," because the urine contains octahedra of oxalate of lime, may, in truth, be treated by the practitioner just as successfully without taking into consideration the presence of the oxalate, as by laying stress on this fact. The patient will, probably, in either case, be treated with tonic infusions and dilute acids (nitric, hydrochloric, or phosphoric), with a gentle purgative (mercurial in some cases) now and then. Pepsin may also be given. The diet should be simple, and small quantities of whiskey or brandy in Seltzey or Vichy Water, may, in some cases, do good. Some patients must have change of air, and a sea voyage is often the best, as it is the cheapest, way of obtaining rest, and fresh air and change of scene.

"Although the octahedra of oxalate of lime afford no special indication for treatment, the dumb-bells, on the other hand, unquestionably do so; for these bodies may form the nuclei of renal calculi. These dumb-bells have, in fact, a special significance, and, as I have pointed out, ought to be regarded as minute calculi." (P. 96.)

Further, and under the head of oxaluria, he says:

"There is, then, in my opinion, no doubt that the general view entertained by the practitioners of the last generation, that frequent deposit of oxalate of lime was associated with a general condition of the system sometimes called bilious, sometimes nervous or irritable, is correct, and it is certain that many of the cases, particularly when there is decided lowness and depression of spirits, are relieved by those medicines which relieve a congested state of the capillaries and retarded circulation in the liver, stomach and intestinal canal. Small doses of calomel or gray powder every other day, or oftener, for a week, will often relieve patients who have "tried everything," and have even subjected themselves to a long course of waters, and a diet and mode of life which is more like a mild form of penal servitude than is a regimen which a sensible person having a knowledge of the structure and functions of the tissues and organs of his body, would be inclined to voluntarily submit himself to. Even half a grain of calomel or gray powder will often relieve a state of system which has caused its owner the greatest discomfort, if not actual misery, it may be, for many weeks." P. 98.

### DR. FERRAN'S INOCULATIONS TO PREVENT CHOLERA.

There is a general feeling of distrust of the methods employed by Dr. Ferran, in his preventive inoculations in the town of Alcaira, in the province of Valencia. The Academy of Medicine and Surgery of Barcelona report that they believe a means of averting cholera has been discovered. The perusal of this report, says the *British Medical Journal*, leaves the impression that Dr. Ferran has not been working with pure fluids; indeed, this is specifically stated to have been the case in the experiments made by the Barcelona Commission. It is stated that the Guinea-pigs which died presented no indication of septicæmia; but much stronger evidence on this head will be required. The blood, moreover, is stated to have contained micrococci, as well as spiralla and comma-bacilli, which is certainly not the case in Asiatic cholera. In man the symptoms were distinctly of the septicæmic type, and resembled those noted by M. Socin, of Bâle, in some recent experiments with an organism which occurs in osteo-myelitis and in phlegmonous inflammations. The fact that a second inoculation of Dr. Ferran's cultivation produced no ill-results, proves nothing as to the nature of the organism. With regard to the protection of human beings against cholera, there are at present no data for forming a correct opinion. Dr. Ferran, it is true, reports that at Alcira, among 5,432 persons inoculated by him, only 7 cases of cholera have occurred, with no deaths; while there have been 64 cases, with 34 deaths, among the remainder of the inhabitants (about 10,500); but this fact alone does not prove that any true protection has been produced. Indeed, a second report is less favorable; it states that 7,128 persons have been inoculated, that 7 were attacked by cholera, and that 2 died; and that 3,011 have been inoculated twice, of whom none have died; but how many were attacked is not stated. Meanwhile, among the population of Alcira not inoculated, 73 cases occurred, with 39 deaths.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverly Robinson, A.M., M.D. Second Edition Revised. 152 Wood Cuts. New York: William Wood & Co. 885. Pp. 276.

The first edition of this work was received by the profession with marked approbation, and notwithstanding the formidable rivals which have come into the field since that time, it still maintains a first position among these good books. The mechanical execution of the volume is good. Although bearing the date of 1885, if there is any mention of the muriate of cocaine, we have failed to discover it; but of surgical devices—snares, scissors, forceps, palate-retractors, electrodes, insufflators, atomizers, etc., etc.—there is a copious collection.

Hay Fever and Its Successful Treatment by Superficial Organic Alteration of the Nasal Mucous Membrane. By Charles E. Sajous, M.D. Illustrated with 13 Wood Engravings. Philadelphia: F. A. Davis, Atty., 217 Filbert Street. 1885.

This is a beautifully printed essay of about one hundred pages, written with enthusiasm. The illustrative cases seem conclusive of the efficacy of the removal of hypertrophies, polypi and exostoses, followed by cauterization with carbolic, glacial acetic, chromic and nitric acids, or galvano-cautery, and to be most effectual must be applied some days previous to the attack.

This subject is exciting great interest, and this seems to be a fair presentation of it.

BERLIN AS A MEDICAL CENTER. A Guide for American Practitioners and Students. By HORATIO R. BIGELOW, M.D. [Reprinted from the New England Medical Monthly.]

This guide goes into the minutest details about the cost of a visit to Berlin, and residence there as a student. Passage money, hotel fare, professor's fees are all plainly stated, and to those who are contemplating such a trip, it is indispensable.

THE LONDON MEDICAL STUDENT AND OTHER COMICALITIES. Selected and Compiled by HUGO ERICHSEN, M.D. Detroit, Mich.

Punch's Medical Student is well known and enjoyed by a generation still giving, who are willing to welcome it in its fresh dress.

Dr. Erichsen has collected a number of medical anecdotes from various sources, and has brought them all together in a volume which is very enjoyable.

THREE OF OUR SOUTHERN JOURNALS.

We notice with much pleasure the exterior improvement and the renewed manifestations of internal energy and life which two of our esteemed neighbors have recently shown.

The *Virginia Medical Monthly* makes its regular visits to us in a new dress, and with abounding evidences of literary and financial prosperity. Our elder brother, the NEW ORLEANS MEDICAL AND SURGICAL JOURNAL, is the oldest journal in the South, and, indeed, the oldest in the country, having been established in 1844, after months of perplexing financial difficulties, has succeeded in overcoming them all and in presenting to its readers a more attractive appearance, and giving evidence of renewed vigor and promise of usefulness.

Dr. F. E. Daniel, having disposed of the *Texas Courier of Medicine*, announces that he will start a new Journal in Austin, Texas, in July, to be known as *Daniel's Medical Journal.*

### REPORT ON THE MORTALITY AND VITAL STATISTICS OF THE UNITED STATES AS RETURNED AT THE TENTH CENSUS, June 1st, 1880.

By J. S. BILLINGS.

We have only space to acknowledge the receipt of this large quarto, as it will take some time to examine and digest the vast collection of statistics contained therein.

We quote the letter of transmittal from Mr. James H. Wardle to the Secretary of the Interior, and take particular pleasure in the fact that the extraordinary labors of Dr. Billings are so highly esteemed elsewhere than in the medical profession :

Hon. L. Q. C. LAMAR, *Secretary of the Interior:*

*Sir*:—I have the honor to transmit herewith the eleventh and twelfth volumes of the quarto series comprising the final report of the Tenth Census, being the report on Mortality and Vital Statistics, by John S. Billings, LL.D., Surgeon United States Army, with accompanying tables.

Too much cannot be said in recognition of the great advantage which the census work has derived from the services of Dr. Billings. While, within his own corps, he has been building a monument to his learning and industry in the preparation of the colossal Index-Catalogue of Medical Literature, he has projected the entire scheme of compilation for the mortuary statistics of the census, has supervised the work in all stages of its progress, and has subjected the results of these vast tabulations to a discriminating analysis and dissection.

# EDITORIAL.

## THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

Thomas F. Wood, M. D., Wilmington, N. C., Editor.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* The Carolinas. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* Journal, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* Thomas F. Wood, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

## THE INTERNATIONAL MEDICAL CONGRESS.

Seldom has there been such unanimity of opinion upon any matter as we have seen expressed in the medical journals of this country on the proposed International Medical Congress. We need not repeat in detail the well-known story of the appointment of the original committee by the American Medical Association, with plenary powers to prepare for the meeting of the Congress in 1887; of the opposition which the printed provisional list of officers and members of the Congress met with; of the movement set on foot to reorganize the original committee, and thus give an opportunity for the admission of some of the discontents to positions in the Congress; of the reorganization of the officers and councilmen of sections in Chicago in such a way as to distribute the appointments over a larger area of the Union, not failing to "punish" (as they say in politics) original members who had condemned the New Orleans movement, or were new code men; how some of the active dissentionists were supplied with prominent places in the new organization; how the leaders of the original committee were compelled by self-respect to resign, and the most prominent members of the original body in Baltimore, Philadelphia and Boston, promptly withdrew their names, thus withdrawing from the Congress a considerable number of the ablest men in the country. It is a record painful to make, not only because it means that the Congress cannot now possibly be what it could have been under the first organization, but because it shows how large a share of medical politics can enter into the meetings of such a loosely constructed body as the American Medical Association, when designing members choose to exert themselves.

The *Journal of the American Medical Association* makes the best it can of the situation, but is almost alone in the position it has taken in defending the unfortunate reorganization. We agree with that Journal that the new appointments, with a few offensive exceptions, have been judiciously made, but we believe that the whole movement which culminated in the Chicago reorganization was discourteous to the original committee, and that the ruling as to the legality of a body having power to reorganize and reinstruct its committees, has no bearing upon a purely scientific body, composed of voluntary members, and working without any other emolument than the reputation which would ensue from eminent ability brought to the task.

The sum of the unfortunate affair may be thus stated: We have been made ridiculous in the eyes of the medical world. The proposed Congress has been severely crippled. The American Medical Association has given evidences of a state of things which must be corrected or be ruined. The new code men by this blunder have been advanced to a position which no act of theirs could have accomplished for them in a quarter of a century.

## EDUCATIONAL BLUNDERING—THE WHOLE OF THE SCIENCE OF PHYSIOLOGY TO BE TAUGHT OUR TEACHERS, AND HOW?

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The last Legislature made a law requiring teachers in the public schools to be taught physiology and hygienics, with especial reference to the effects of whiskey and tobacco upon the general health, with the ultimate object of imparting knowledge thus acquired to the children in our public schools. One easily sees the benevolent theory of the State in reaching the evils of intemperance through the enlightenment of teachers first, and then the scholars entrusted to them. Very many good people are convinced that if you show folks how greatly they abuse their bodily health by self-indulgence, and put the proposition in some palpable shape, you arrest their evil propensities in the most natural way. Without doubting this proposition, let us see how it is proposed to carry out the State's mandates. One of the injunctions of the law is that a text-book should be selected best adapted to inform teachers upon physiology and hygienics with especial application to the evils of intemperance The book adopted we have before us. It is entitled, "An Abridgement of the Hygienic Physiology, with Special Reference to Alcoholic Drinks and Narcotics," etc., by Joel Dorman Steele, Ph.D. It is a very small volume for such large pretensions, as its pages number, exclusive of introduction and set questions, just 157, and the prodigious task is attempted of teaching the mechanism, functions, hygienics of each process discussed, the diseases most common to different sets of organs, toxicology and how to treat emergencies until the doctor comes. Interspersed amidst these varied topics, we find special information on the evil effects of alcohol. The old temperance lecturer is said to have carried his "horrid example" around with him in lecture tours in the person of a confirmed sot. Here we have a new digression. We have a colored (shall we so misuse a word and call it) illustration, of the "effects of alcohol upon the stomach?" The first figure is a very impossible stomach with a slit in it and drawn apart by hooks to show a healthful stomach. This wonderful stomach is then contrasted with three patches of stomach, we suppose, marked respectively "Moderate Drinking," "Drunkards," "Ulcerous." Then, to deepen the effect, we are shown a bit

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of stomach "after a long debauch," "death by delirium tremens," and finally, "the cancerous stomach." Language is inadequate to express such a contemptible imposture in drawing and in coloring. The evils of alcohol are told in a style quite consonant with the gaudy sea-weed patterns of the stomachs. If the sharp school-boy lets slip an opportunity to catch the author of this booklet in his chromolithographic raid on dram-drinkers, he is not the boy of the same shade of mind that we once knew.

The book is a pitiful farce, and the object of the Legislature could not have been more signally defeated in any other way than by adopting it as a text-book.

## THE FIRST FEMALE MEMBER OF THE STATE MEDICAL SOCIETY.

Quite in contrast with the manner of the election of the female honorary member at Newberne, some years ago, was the entrance of the first female regular member at the Durham meeting. We doubt if more than a few members knew what was going on when the new member complied with the constitutional requirements, and when it was spoken about very freely among the members who had not before been apprized of the fact, there seemed not to be the slightest opposition. After the furor at Newberne upon the admission of Miss Dimmock, it seems quite unaccountable that no voice stronger than that of surprise, by a lay Secretary, should have been heard, and this only after the act. Singularly enough, the orator, who had not foreseen the probability of the admission of a female member, had already chosen his subject—"Shall Women Practice Medicine?"—and there is but little doubt that our new member was lucky to have passed the Committee on Credentials when she did—that is, before the oration. Notwithstanding the action of the Society, we believe that it was wrong, and that having been duly licensed, the Committee on Credentials should have refused her admittanee to the Society.

Diagnosis of Gonorrhœa in the Female.—The *Medical News* states that Martineau, of Paris, points out that the difference between the pus of gonorrhœa and that of non-specific character (leucorrhœa) is, that in the former the pus is acid, and in the latter alkaline. A bit of litmus paper will decide the question.

# EDITORIAL CORRESPONDENCE—ORIGINAL GASTROTOMY IN THE MOUNTAINS—HOW MUCH LEAF-FAT IT TAKES FOR TWO BISCUIT.

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One need not travel a far way in the mountains of North Carolina to learn that it is the region *par excellence* of mother wit, and a region from which our distinguished Senator from the West draws largely his almost inexhaustible fund of witty anecdote. The wit of the Western counties, while not very largely medical in its character, tinges things as solemn as surgery and forensic medicine, and it is well worth a journey of a few weeks in the mountains to pick up the good things which will never be rescued by the "art preservative." In a short journey from Asheville to Charleston, in Swain county, the train was detained for some hours by the destruction of a trestle, just at the foot of a high hill. One of our travelling companions, "a fellow of infinite jest," a physician of cunning skill, full of knowledge of all the broad domain of the mountain region, and known far and near for geniality among his country neighbors, enjoying the soubriquet of "Medicine Man" among the Cherokees.

At the foot of that hill, he informed us, there were the ruins of a whiskey still. Some years ago a party of young men climbed half way up the mountain to have a quiet game of "seven up." As is not unusual, a quarrel ensued, and one of the parties ripped the other's abdomen open, and as he tumbled to the bottom of the mountain he spilt the contents of his stomach, and reached the bottom with the wound quite foul with grass and leaves and lots of sticks. It looked like a serious business, but the wounded man was not dismayed, although it was quite evident that the surgery must be done by the one of his neighbors who had the courage to undertake it, for surgical aid was not to be had.

No gastrotomy was ever executed with such utter disregard of the principles of Listerism, and no dressings were ever applied with such reliance upon the "native," to use Chapel Hill slang. The neighbor selected for the important office of stitching up the wound found the necessary needle in the lappel of his coat, and his faithful fiddle furnished the necessary thread. The stomach incision was closed, all unconscious to the volunteer surgeon of the feat, he was employing a glover's stitch, and the abdominal opening in the same way, and lo! the results!

We have given the account of this case as furnished by the patient and kindly interpreted by our *companion de voyage*. The illustration accompanying this sketch is not intended (we say this for the sake of our contemporary of the *New York Medical Journal*) to illustrate any principle in pathology, but to identify the first case of native gastrotomy:

ASHEVILLE, N. C., June 8, 1885.

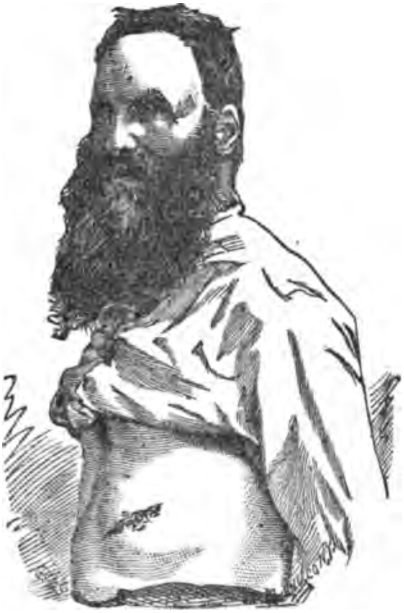
*Dear Doctor*:—My friend Sharpe was in town a few days ago, and seemed to regret very much that he had missed seeing you. As you seemed interested in the case, I had a photograph of the abdomen taken, showing situation of cicatrix.

From the patient I got the following facts:

"John P. Sharpe, aged 48; while engaged in an altercation with one King Muse, December 18th, 1877, received an incised wound in left hypochondria. The weapon was an ordinary pocket-knife, with long, slender blade. The knife entered between the sixth and seventh ribs; the direction of the blow was downward and inward, towards the median line. The costal cartilages were divided, and the fundus of the stomach was incised for the length of three inches. The external wound was about five and a half inches in length. The stomach was distended, Sharpe having just finished a hearty meal. The contents of the organ escaped through the external wound. Sharpe fell to the ground, and, being on the side of a steep hill, he fell down the declivity. The wound became full of leaves, dust, etc. Sharpe pulled the stomach out of the wound and washed it himself. He says he had the "receiving pipe" of the stomach in his hand, but "he could not get hold of the dejecting pipe."

There being no physician near, an illiterate young man, named Matt. Goodson, took an old needle out of the lappel of his coat, and, taking the silk string off his "fiddle," after finishing the ablutions, proceeded to bring together the edges of the cut stomach by continuous suture. He then sewed up the external wound in same manner. Patient was put to bed on fourth day; the stools contained a large quantity of disintegrated blood, but none at any other time. Says he abstained from food for four or five days, and then commenced to eat whatever he wanted. Says he had no fever at any time; suffered no pain except for a few days; he felt a little sore when he would turn over. On the 13th day he was walking around everywhere, and the 17th day came to Asheville, sixteen miles distant.

The external wound healed by the 12th day ; the sutures remained until they dropped out. No dressing but cold water and castile soap. I enclose you a photograph showing wound.



One of the gifted and genial judges of the Superior Court, a fellow-traveller, listened to the narrative of Sharpe's case, and entertained us with one from his extensive experience in the county in the same region.

The story goes—a witness was put upon the stand in Webster, Jackson county, to testify as to the amount of injury a wounded man had received :

*Lawyer*—Where was ——— wounded, and how?

*Witness*—He was cut in the belly with a knife.

*Lawyer*—What was the nature of his wound ?

*Witness*—Well, sir, part of his *leaf-fat* came out.

*Lawyer*—Can you tell the court how much leaf-fat came out ?

*Witness*—Yes, sir, I think *the doctor cut off just enough for two biscuits !*

## EXTRA SESSION OF THE STATE BOARD OF MEDICAL EXAMINERS.

We are informed by Dr. W. J. H. Bellamy, Secretary of the State Board of Examiners, that, owing to the large number of candidates yet to be examined, the Board has voluntarily undertaken to hold an Extra Session in ASHEVILLE Wednesday, the 26th August, 1885. This meeting will be convenient to many Western men who have been deterred previously by the distance and the lack of money.

## DEATH OF PROF. JOHN STAIGE DAVIS, M.D.

The death of Dr. Davis is a great calamity to the University of Virginia and to the entire medical profession. He died at his home at the University on the 17th July. For a great many years Dr. Davis has taught anatomy and materia medica and therapeutics, and in the former branch he had no superior, and very few equals. He was thorough and minute, and his standard of the acquirements of a student in this branch were very high, winning for the graduates in anatomy from the Medical Department of the University a standing far superior to most colleges. The teaching ability of Dr. Davis has shed lustre upon the College he served so long and so well, and hundreds of physicians throughout the South will read this announcement with profound sorrow.

HOW TO REMOVE A PLASTER BANDAGE.—Dr. G. KROPZ writes that the removal of a plaster-of-Paris dressing is greatly facilitated by first scraping a groove with a knife, and then dropping along it a solution of caustic soda. In a few minutes the plaster becomes pulpy along this line, and the bandage can then easily be cut through. If two lateral grooves be made, instead of one, a lid can be cut out of the bandage, the leg can be lifted up for the necessary inspection and returned, the lid being reapplied and retained with a roller bandage. In this way the plaster dressing is not cracked, and the limb is not jolted in the efforts to remove the bandage. By this method, also, it is a very easy matter to cut any fenestra that may be needed.—*Deutsche Medical Zeitung, New York Medical Record.*

# THERMIC FEVER OF INFANTS, OR SO-CALLED SUMMER COMPLAINT.

The subject of the treatment of sunstroke or thermic fever is so hackneyed that we do not propose to inflict any lengthened discussion of it upon our readers. Suffice it to state that, as almost every well-informed person ought to know, no time should be lost in any case of sunstroke in sousing the patient in cold water, putting him in a cold bath, rubbing him with ice, or in some similar way reducing his temperature. The matter of minutes in this case being one of life and death, no time should be lost in waiting for the physician. The only danger is in the mistaking heat-exhaustion for true sunstroke, and this mistake can be avoided by simply feeling the surface of the body. If this is cold, the subject is suffering from heat-exhaustion, and should be put in a hot bath. If it is intensely hot, the patient is suffering from sunstroke.

Not yet overwritten, however, are the various febrile conditions which are really mild forms of thermic fever, but which are, we believe, not yet recognized as such by the very large proportion of the American medical profession. Many years ago Dr. Moorhead, in his classical work on the diseases of India, under the name of "Ardent Continued Fever," described that mild form of the disorder which was so ably pictured in the March number of this journal by Dr. John Guitéras, as he has seen it at Key West, where it has usually been diagnosticated as typhoid fever. This affection is probably very common in the southern portions of the United States, but is rare in our Northern States, because the heat is less continued.

It is notorious that in our Northern cities the infant mortality rises most extraordinarily and most abruptly upon the occurrence of a very hot spell of weather, such mortality being due to the so-called entero-colitis, the symptoms of which may be summed up as high fever, dry tongue and mouth, rapid pulse and respiration, intense thirst and vomiting, purging of greenish watery fæcal or serous matters with undigested particles of food, and more or less apparent evidences of cerebral disturbance, such as insomnia, headache, contracted pupils, delirium, and, finally, coma. In some of these cases the bodily temperature of the little sufferer rises to a point almost reaching the maximum attained in the sunstroke of adults, and we well remember how we used to be taught to explain to the mothers under these circumstances that the disease had gone to the child's head and was hopeless. To Dr. C. Comegys, of Cincinnati, belongs the great credit of having first called attention to the fact that these cases are to be relieved, not by calomel or astringents, or any other drug which relieves inflammation of the intestines, but by external use of cold water. They are, in reality, forms of thermic fever, the intestinal condition being no more a primary disease than is the coma of adult sunstroke a primary condition; if this fact were clearly recognized by our practitioners of medicine, the mortality rate in our large cities among children during hot spells would be enormously reduced. Dr. Comegys practised cold affusions, but we do not think these have any advantage over the cold bath, and are more trouble. The mothers accustomed to the powders, pills and nauseous mixtures of the older physicians usually object to the withdrawal of the medicine, but especially are they terrified by the use of the cold baths, and the infants themselves are usually prone at first to protest with what little physical strength they have against the plunge into the cold water; but when it has been once seen that the child that has been tossing for nights, moaning and sleepless, becomes quiet, and on being taken out of the bath, falls into a peaceful slumber, the opposition of the mother soon becomes turned into a grateful confidence. In our own experience even nursing babes soon recognize instinctively the effect of the bath, and older children become eager for it. There is, therefore, after the first essay, usually no trouble in carrying out the plan of treatment; indeed, not rarely care must be exercised to see that the bath be given not too frequently. It must be remembered that the object of the bath is to reduce the temperature of the child, and that, therefore, unless the bathing is done with sufficient frequency to keep down the temperature it will not be efficacious; but, on the other hand, it must not be forgotten that it is very possible to overdo the treatment. The thermometer should be freely employed, and the practitioner be guided by its warnings. If two baths in the twenty-four hours should keep the temperature near normal, two is all that is necessary. If eight baths are required, eight should be given.—*Therapeutic Gazette.*

# A NEW METHOD OF GIVING A BATH IN TYPHOID FEVER.

By H. C. Wood, M.D.

As is well known, the great difficulty in the use of the bath in fevers is the trouble which is involved in moving the patient in and out of the bath-tub. The following simple device will in great part remedy this trouble and also save the necessity of providing a portable bath-tub. The canvas of an ordinary bed-cot is to be made three or four inches wider than it is ordinarily arranged, and a broad board nailed at each end so as to hold the cot permanently open and project above it several inches in the form of a head- or foot-board. This cot is then arranged alongside of the bed of the patient so as to be on a level with the bed and at the same time firm. Over it is spread an India-rubber cloth, sufficiently large to cover it entirely and to fall above and below over the head- and foot-board. The patient, wrapped in a sheet, is then slipped on to the cot; of course the canvas sags down, and when water is poured over the sheet the man lies half immersed in a pool. If the attendant is provided with two tubs, one containing water and one empty, and also with a large bathing-sponge, the water in this pool heated by the body can be removed by means of the sponge, and fresh cold water soused over the body enveloped in the sheet. In this way the water lying continually between the sheet and the body, as well as saturating the sheet, so envelops the person that the effect of a cold bath can be achieved, and I have seen very rapid reduction of obstinate high temperatures. If the bed upon which the patient lies be a very wide one, instead of a cot being used, the mattress can be so arranged on one side as to sag down sufficiently to form a hollow for the pool, and in this way the bath be given.

I notice that Stephan, of St. Petersburg, affirms that the application of ice-bags over the super-clavicular regions is sufficient to control the temperature in fever, owing to the fact that the cold is brought into close contact with much of the blood of the body by the large superficial veins of the neck. I have had no experience, however, of this method of reducing temperature, but it is worthy of a trial; especially as it seems to be safer to reduce temperature in low fever by external cold than by our at present known depressant antipyretic drugs.—*Therapeutic Gazette.*

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## CICATRIZATION IN BLOOD-VESSELS AFTER LIGATURE.

An instructive paper, or rather monograph, was read by Dr. Senn, of Milwaukee, before the last session of the American Surgical Association on the subject of cicatrization in blood-vessels after ligature. A reprint of the paper is now before us. After giving the history of ligature as employed in surgery, and examining the older and most recent views regarding the histology of the blood-vessels, as well as the effects of permanent ligature, the author presents a detailed account of his own investigations and observations. He invariably performed his experiments with strict antiseptic precautions. Fifty-four ligatures were applied in a large number of healthy animals. In twenty-three cases double permanent ligation of arteries was performed, and, in nine, double temporary ligatures were applied. Similar experiments were also made on the veins. Among other things, the deleterious influence of suppuration on the healing process was well shown by the author's experimental inquiries. He found that "in all cases where the wound healed by primary union, the isolated portion of the vessel became adherent, as early as the second day, to the adjacent tissues, and, after a few days more, the interrupted vascular connections were restored."

When temporary ligatures were employed, suppuration, of course, was more frequently seen, on account of the unavoidable interference with reparative processes in the wound. In all cases where suppuration followed operative interference, the vitality of the intervening portion of the vessel suffered. Indeed, if sufficient time was given, this portion of the vessel was, as a rule, found to be completely separated and lying within the abscess cavity.

Nevertheless, secondary hemorrhage was never seen as a result of suppuration, nor was sloughing of the intervening portion observed. The author explains this by the presence of a narrow intravascular cicatrix in both ends of the vessel, which "was usually supported by a strong paravascular ring of connective tissue, which formed a part of the thick wall of the abscess." Dr. Senn formulates the following conclusions as to the result of this part of his inquiries:

1. All surgical operations on blood-vessels should be performed under strict antiseptic precautions for the purpose of preventing suppuration.

2. In aseptic wounds the complete isolation of a vessel from its sheath for a distance of one inch is not followed by any serious disturbance of nutrition in the vessel-walls.

3. Suppuration invariably produces a loss of continuity of the vessel at the seat of ligature.

4. Inflammation beyond the limits of the reparative process interferes with the typical formation of the intravascular cicatrix.

Senn's experiments further led him to prefer catgut to silk, horsehair, or silk-worm gut as suitable for aseptic ligatures. He demonstrated anew the circumstance that properly prepared catgut does not act as a foreign body, and although finally completely absorbed, resists long enough for the occurrence of vascular obliteration. He states that he has never observed a single case in hospital or private practice where the catgut ligature failed to fulfil its purpose of provisional hæmostasis. It never gave way before the definitive cicatrix had become sufficiently firm to resist intra-arterial pressure.

Dr. Senn is also in favor of freely opening the vascular sheath in order to fully expose the vessel to be ligated. He has never seen any harm result from this procedure. It is to be borne in mind, however, that this teaching is opposed to that of a majority of surgeons, who hold that the vascular sheath should be spared as much as possible.

As regards the time required for permanent obliteration to become established, it was ascertained that it required from four to seven days in arteries, and from three to four days in veins.

There is no doubt that Dr. Senn has conscientiously labored to elucidate a subject, the importance of which requires no emphasis. If his conclusions are in some respects at variance with accepted doctrines, they will all the more stimulate further research. Meantime we may feel quite certain that the double aseptic catgut ligature should be more frequently made use of in our country than is at present done.—*Medical Record.*

## CHOLERA ("VACCINATION") INOCULATION.

Dr. Mortimer Willson, of Port Hudson, Michigan, makes a wise observation in the *Therapeutic Gazette* of June, 1885, viz:

"While commending all scientific efforts to penetrate the mysterious domain of disease, every thoughtful physician must know that, in the department of etiology, we are in the midst of an epidemic craze.

"Not content with searching for a germ as the cause of almost every known disease, and its therapeutic destroyer, the enthusiasts in the race for microbes assign new properties to the creatures when found, and present them as therapeutic agents in entirely unheard-of *rôles.*

"The recent claims of some Spanish experimenters in vaccinating (let etymology go to the dogs!) animals and men with "bacillus choleræ" is announced with a flourish of trumpets, and with the comforting assurance that "man tolerates bacillus-vaccination."

"Well, and if he does?

"The value of this must be determined by the immunity or non-immunity of the "vaccinated" from cholera contagion. Can we reasonably expect immunity?

"The value of real vaccination lies not only in the fact that cow-pox is essentially small-pox modified, but much more in the fact that a patient having suffered from small-pox is thereby rendered insusceptible to the action of its virus.

"Now, if one attack of cholera protected, as does an attack of small-pox, we might reasonably hope for benefit from these experiments. As this is not true, what good can come from this homœopathic *baccilization?*"

## NOTES.

**DEATH OF THE PATIENT THOUGHT TO BE SUCCESSFULLY TREATED FOR ABDOMINAL ANEURYSM.**—This case of Prof. Loreta (see JOURNAL May, 1885), of Bologna, died 92 days after the operation. He had been in excellent health up to his death; the tumor had shrunk to the size of a walnut; the copper-wire was found unaltered and rolled up into a globular mass in the sac itself. The cause of death was rupture of the aorta, just at the angle of junction between the artery and the front wall of the tumor.

**COUNTRY PRACTITIONERS.**—One of the important questions relating to the improvement of practical medical knowledge is the question how to preserve and utilize the knowledge of the country practitioner. It too often dies with him; and that there are many points in it worth preservation there can be no doubt. The tendency of modern medicine has been to abandon drastic measures and watch, and possibly assist, nature. But natural processes are long, and need long observation. The advantages in this respect that sometimes fall to the country practitioner, in comparison with his town colleague, are well described by Dr. S. Dyer, in a short presidential address to the Dorset and West Hants Branch of the British Medical Association. The familiarity between doctor and patient is more intimate, and there is more chivalry in the constancy of patients to their advisers.

[The above is from the *British Medical Journal*, but is as applicable to North Carolina as to Great Britain. We have several times called the attention of our subscribers to the fact that the majority are allowing their clinical experience to perish with them, and are leading the world to believe they have nothing of interest to put in print—but we believe that it is sometimes lack of experience in recording observations, but very largely it is—laziness and indifference.—ED.]

**TOXIC NORMAL URINE.**—There are toxic normal principles in urine quite independent of urea, uric acid, kreatin and urinary potash salts, which behave chemically as alkaloids. The effects of the intrarerous injection of urine containing this substance have been studied with renewed interest of late. M. Buchard has shown that there are numerous principles of a toxic character residing in several of the urinary constituents. These principles are not volatile, their toxicity resisting boiling, and, although altered by filtration through animal charcoal, it is deprived of some of its toxic powers, without losing them altogether. A somewhat similar alkaloid substance appears to exist in muscle, liver-substance and blood. These toxic principles in the urine are much intensified when the individual who has passed it suffering from a slight "cold" or catarrh or from extreme fatigue. These alkaloidal substances have not been separated chemically, nor have reagents been discovered to readily detect them. May not this study of the urine poisons lead to the fact that they are identical with ptomaines, and that, after all, microbes, instead of being the causative agents, are only enabled to live and multiply because the presence of these substances is a fit soil for them?

Daniel's Medical Journal.—The first number of the above Journal came to hand to-day. It makes a very handsome appearance, and in the immense State of Texas will doubtless attract a large subscription. The editor boldly strikes out in defence of the reorganization of the International Medical Congress. Two medical journals might be well supported in Texas, and Dr. Daniel has the ability to make his always interesting. We wish him success, and trust that his efforts to organize the medical profession in Texas, so well begun, may be triumphantly completed.

The Treatment of Hemorrhoids by Injection.—In an instructive clinical paper in the July number of *The American Journal of the Medical Sciences* Dr. Charles B. Kelsey, of New York, urges the treatment of hemorrhoids by injection of carbolic acid. After an ample experience this has become his routine practice, and in all his cases he has never known a patient to abandon the treatment after it was begun, and he has never failed to effect a perfectly satisfactory cure by it, and he has never had an accident of serious nature with it.

He uses three solutions, one of 15 per cent., one of 33 per cent., one of 50 per cent., and sometimes he uses the pure acid. In a severe case he begins with the stronger ones, in a mild case with the weaker.

## READING NOTICES.

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WE call attention to the advertisement of the University of North Carolina, which has of late largely increased its Faculty and means of instruction.

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R. C. McCANN, M.D., of Benton, Miss., states: "I have prescribed TONGALINE with great success in the treatment of Neuralgia, and have never found any remedy equal to it for that trouble. I consider it a valuable addition to the remedies of the Materia Medica. It is designed to meet a long-felt desideratum, which convinces me that it will shortly come into general use."

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BARTLEY'S POCKET URINARY TEST CASE.—Dimensions 4½x1½ inches. The case is designed for use of physicians at the bed-side of the patient, with a hand-book of formulæ and directions for use.

The case contains a scientifically correct urinometer, enclosed in a cloth bag to prevent breakage, and a heavy glass tube for urinometer jar, package of litmus paper, pipette for handling urine, two vials of test powders and spoon.

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Address H. Campbell, 140 & 142 Nassau Street, New York.

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THOMAS F. WOOD, M. D., Editor.

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# ORIGINAL COMMUNICATIONS.

## MICRO-ORGANISMS IN RELATION TO DISEASE.

By Hubert Haywood, M.D., Raleigh, N. C.

(Annual Essay, Delivered before the Medical Society of North Carolina, at Durham, May 20th, 1885.)

*Mr. President and fellow-members of the North Carolina State Medical Society:*

Having been honored with the position of Essayist, I have thought over the wide field of medical literature, and have concluded to ask your attention to a subject which, while engaging the most general and painstaking attention of the medical world, is not only very important for us as practitioners of medicine and surgery and as sanitarians, but is at the same time very interesting to me. I hope I shall be able in the following pages to present it to you in equally as an attractive and interesting a form as I have found it in my numerous readings. The subject is such a vast one, and the bibliography so immense and conflicting, the task is very difficult to condense it into the short space of *one* essay and do justice to it—to separate the wheat from the chaff, deductions from demonstrations, facts from fancies, etc. I shall of necessity be forced to pass in rapid review only all the important facts bearing on the subject, selecting what I consider the most trustworthy, referring you for details in the methods of research, experimentation, etc., to the various and multitudinous writings on the subject, especially to those of Koch, Pasteur, Klein, Belfield, Gradle, Sternberg and Magnin, Formad, Black, Spina, Sattler, Marcy, etc., to whom I will here now, once and for all, in order to avoid needless repetitions, acknowledge my indebtedness for the following pages. Without further ado, I will therefore invite your attention to

### MICRO-ORGANISMS AND THEIR RELATIONS TO DISEASE.

*Morphology.*—Bacteria, the smallest of all microscopic beings, are the lowest organisms situated upon the limit of the two kingdoms, animal and vegetable. Their vegetable nature is, however, admitted. They are of a true cellular structure, their envelope being of cellulose and mycoprotein, their protoplasm or mycoprotein being a nitrogenous substance, generally colorless, more highly refractive than water. This protoplasm is sometimes homogeneous and sometimes there are portions more highly refractive, vacuoles, special granules, and sometimes diverse coloring matters. They are cells deprived of chlorophyll, of globular, oblong or cylindrical form, sometimes sinuous and twisted, reproducing themselves exclusively by transverse division or binary fission; hence the term schizomycetes and endogenous sporification, living free and isolated, i. e., unicellular or in cellular families, united in chains of spherical elements, i. e., torula, of filament, i. e., leptothrix, in zoöglea or masses imbedded in a mucous substance or hyaline gelatinous matrix produced by them, called mycoprotein, in the form of mycoderma or thick membranous layer, in swarms, in a state of temporary repose as a pulverulent precipitate. They have affinities which approach them to the algæ, and especially to the oscillatoriæ. They are active or motionless. There are two kinds of movement—a movement of the corpuscle upon itself, a molecular or Brownian movement, or a more extended movement of rotation round the axis or a bending of the body, and a movement of translation, which varies as to rapidity and slowness relatively with the length and form of the bacterium. The cilia or flagella which exist in nearly all the true bacteria are hardly the cause of the movements, though supposed to be by many, for there are examples in which the body remains motionless, while the cilia are in violent agitation, and others in which the body moves, while the cilia remain inert or dragging behind. The movements appear to depend rather upon the nutrition or respiration, and especially upon the presence of oxygen. Immobility may also be produced by want of nutriment, poisoning by different toxic substances, dessication, etc. They are nourished and respire by endosmotic absorption. They must have water, nitrogen, carbon, certain inorganic mineral salts, phosphates, potassium and sodium salts and some free access of oxygen—ærobic, while others grow without free oxygen—anærobic, physical, chemical and biological influences favor and hinder their multiplication.

There are three different theories as to their origin :

1. Heterogenesis, i. e., spontaneous generation.

2. Poly-morphism, i. e., evolution or transformation from pre-existing organisms, and that they are different stages of development of known species, whose life cycle is not yet discovered.

3. Autogenesis, i. e., they are developed from organisms similar to themselves by fission, spores, etc.

The first is disproven beyond question ; hence the dogma, *omne vivum ex ovo.*

As to the second, the only transformation which can be compared to poly-morphism, consists in the transformation of spores into bacteria, bacteridiæ, vibrios, etc., and in the different modes of grouping that the cells take in becoming zoöglea, mycoderma, leptothrix, etc.

The third theory is the generally adopted one. They are ubiquitous—present in the air, in waves or clouds, in the atmospheric dust—very few in the adult form, but mostly as permanent spores, in water in considerable quantities, both as adults and spores—the only exception being the waters drawn from the very source of a spring, in and on the soil, on the surface of solid bodies, in the interior of plants and animals, on the surface of the human body and in the interior of the organs in communication with the exterior. They are not found in the blood or tissues of the healthy living body of either man or lower animals.

*Classification.*—Cohn's classification, which is the best, is as follows :

1. Sphero-bacteria or micro-cocci.

2. Micro-bacteria or bacteria.
3. Desmo-bacteria or bacilli.
4. Spiro-bacteria or bacteria in spiral filaments.
    1. Spirilla.
    2. Spiro-chætæ—screw-shaped thread, with flexible and narrow coil, but less rigid and not so wide a screw as spirilla.

There are also various kinds of schizophites, which approach one or the other of these, e. g., sarcina, in which the division occurs by two perpendicular partitions, in such a manner that multiplication takes place in two directions—ascococcus, leptothrix (Beggiotoa), cladothrix, streptothrix, etc.

A micrococcus is a minute spherical or slightly oval organism, which is capable of Brownian or molecular movement or trepidation. It does not possess any cilium or flagellum, and never multiplies by gemmation or sporification, but only by fission. Their size varies from .0008 to .002 millimetres or a little more. They are divided according to their chemical and physiological function into

(*a*) Septic, which occur with other bacteria, wherever there is decomposition of solid or fluid organic matter. There are a large number of this species.

(*b*) Zymogenic or fermentative, which are associated with definite chemical processes. Such are the micrococcus ureæ, of the mucoid wine and beer fermentation and that causing phosphorescence in putrid meal and fish.

(*c*) Chromogenic or pigmentary, which are characterized by their power of forming pigment of various colors. Such are prodigiosus, chlorimus, fulvus, lutens, auriantiacus, cyaneus, violaceus and candidus.

(*d*) Pathogenic, which are connected with disease and are numerous—micro-bacteria or bacteria or rod-bacteria are slightly elongated and oval or short and cylindrical, with rounded ends. They are capable of spontaneous locomotion, have a flagellum at one or both ends, and perform active spinning or darting movements and divide by fission. They comprise :

(*a*) Septic, which includes only bacterium termo and bacterium lineola.

(*b*) Zymogenic, embracing bacterium lactis and bacterium acetis.

(*c*) Chromogenic, such as bacterium xanthinum and bacterium æruginosum.

(*d*) Cathogenic, of which there are three kinds, e. g., of Koch's septicæmia, of Davaine's septicæmia and of Fowl cholera.

Desmo-bacteria or bacilli or rectilinear filaments are cylindrical or rod-shaped, rounded or square cut, at their extremities. They divide by fission and form spores. They are isolated or in chains—sometimes in swarms, never in zoöglœa. There are attenuations of movements and states of repose, and sometimes there are no movements whatever. There are a great many species which differ:

(*a*) In the shape of the elements.

(*b*) In motility.

(*c*) In the power of forming filaments or leptothrix.

(*d*) Particularly in the thickness and length of the elements.

Sporification in their most striking phenomenon. The spores are generally oval, when fully developed, spherical when immature. Their appearance is always bright and glistening. They absorb dyes not at all or with great difficulty. They are generally a little thicker than the bacilli within which they have developed. The way in which they are formed is always as follows: in one or other elementary cubical, spherical or rod-like mass of protoplasm, either in the extremity or body of the article, a bright dot appears, which refracts light strongly, having a dark outline; at the expense of the protoplasm this enlarges, until it assumes an oval shape, when it is fully developed. This process does not consume the whole of the protoplasm of an element—at one or both ends a small trace always being unused. The bacillus looks much thickened with its enlarged sheath. Some authors state that the sheath, after having swollen up, remains for sometime as a hyaline gelatinous capsule around the spore and the protoplasm remnant, which disappears little by little, and is replaced by a hyaline liquid. This dissolves and is finally lost, the spore becoming free. Others claim that the spore, with the protoplasm remnant, becomes free by the rupture of the sheath. This remnant soon disappears, leaving the spore entirely alone. A spore may be formed under the most favorable conditions in each elementary mass of protoplasm, or it may be only in a small number. Sporification closes the cycle of the life-history of the bacilli. It occurs in many species of bacilli, but not under all circumstances. With many bacilli it occurs only when there is free access of air and an ample supply of oxygen, and has nothing to do, so Klein says, with the exhaustion of the nourishing material, as Buchner thinks. According to Klein the rule is that wherever the spores are formed they germinate into bacilli, if they have access to nourishing material, but if not, or if the nourishing material is exhausted, they remain as spores only capable of germinating into bacilli, when new nourishing material is added, or when transplanted to new nourishing material. Some claim that the germination of the spore does not seem to occur in the same medium, but does so only when transplanted. They are also capable of germinating independently of the free access of air. Spore formation does not take place at low temperatures. Koch places the limits for anthrax at 12° C. and 43° C., but Klein gives 44° C. as the upper limit. An essential element for the formation of spores is moisture. The spores are the permanent or durable seeds, capable of retaining life and of germinating into bacilli, even after what would appear the most damaging influences (that is, damaging to all other kinds of organisms and to the bacilli themselves), such as long lapse of time, drying, heat, cold, chemical reagents, etc. Whether they are kept dry or in the mother liquid, they retain the power to germinate into bacilli after the lapse of long periods, and there is no reason to assume these periods have any limit. This great resistance of spores to low and high temperatures, to acids and other substances, is due to the fact that the substance of each spore is enveloped in a double sheath—an internal sheath, probably of a fatty nature, and an external one, probably of cellulose; both are very bad conductors of heat. They are frequently mistaken for micrococci, as they are identical in form and aspect, and for granules, etc. Their points of differentiation are their germination and multiplication and staining reactions, together with their optical signs. It is not, however, always easy to extinguish a spore from a micrococcus.

The bacilli are divided into:

1. Septic. These are bacillus subtilis, ulva, septicus, streptothrix and cladothrix and beggiotoa.

2. Zymogenic, e. g., bacillus butyricus (bacillus amylobacter).

3. Chromogenic. Such are bacillus ruber, erythrosporus and syncyanus.

4. Pathogenic. These are numerous spiro-bacteria or spirilla, are filaments of a spiral shape, motile, and, when moving, owing to their shape, follow a spiral course. They are probably capable of forming minute bright spores, and in some species there are cilia. They include:

1. Septic. These are tenue (which forms plicatile or spiro-chætæ) undula and volutans.

2. Pigment. Such are rose-colored and sanguineum.

3. Pathogenic, e. g., spirillum Obermyeri.

Vibriones are rod-shaped, but not straight, more or less wavy and motile. They are the transition between the desmo-bacteria and the spirilla, but rather allied to the spirilla, because of their undulating filaments. Their bodies are filiform, more or less distinctly articulated and always undulating. Their movements are serpentine. They include:

(a) Vibrio rugula.

(b) Vibrio serpens.

Yeast fungi, torrulaceæ or saccharomycetes are not bacteria, but belong to the order of fungi called blastomycetes. They multiply by gemmation and sporification. The numerous species vary morphologically chiefly in size and physiologically by their action on different fluids. They all have the power to split up sugar into alcohol and carbonic acid. Grawitz has proven that oidium albicans, which is the recognized cause of thrush, is identical with the oidium variety saccharomyces mycoderma. Mould fungi, hyphomycetes, mucorini or mycelial fungi consist of branched and septate hyphæ, composed of rows of cylindrical cells. They increase in number by fission and budding or gemmating laterally. The mycelial fungi, called ascomycetes, are the only ones which need engage our attention. They are charcterized by the fact that one or the other branch of the mycelial hyphæ produces at its end a series of spherical or oval cells—the conidia spores or conidia. In addition to this some of the hyphæ form peculiar large mother cells or sporangia, in the interior of which a number of spores are formed by endogenous sporification. They are divided into:

(a) Oidium Lactis—morphologically identical with the fungus causing favus, herpes tonsurans and pityriasis versicolor of man and animals, according to Grawitz, while Malcolm Morris and G. C. Henderson claim that the fungus causing herpes tonsurans is identical with the mycelium of penicillium.

(b) Aspergillus. This very common mould is subdivided into different species, according to differences in the coloration of the mycelium and spores. Lichtheim showed that the spores of aspergillus flavescens and fumigatus would, when introduced into the vascular system or peritoneal cavity of rabbits, sometimes grow and produce death with symptoms of metastasis into the various organs due to localized foci, where these spores grow. The spores which possess such pathogenic properties are not at all dependent upon acclimatisation and are not ordinary moulds, but a distinct species of aspergillus, the spores of which, under all conditions of growth, are capable of producing in rabbits the mycosis in question.

(*c*) Penicillium.

(*d*) Mucor, which belongs to the phycomycetes fungi.

(*e*) Saphrolegnia, which also belongs to the phycomycetes fungi. It grows on the skin of living fish and causes here severe illness, often terminating in death. Prof. Huxley has shown that the salmon disease is caused by this parasite.

Actinomyces are peculiar, club-shaped corpuscles, homogeneous and of a bright, slightly greenish lustre. They are the cause of a disease called actinomycosis. Bolinger first described the disease in cattle. Israel first pointed it out in the man, and Ponfick has proven that it is not a rare disease. Johne has trasmitted the disease by inoculation from cattle to cattle, and J. Israel claims to have artificially cultivated the actinomyces on solid ox-serum. Having now finished the discussion of the micro-organisms other than bacteria, to which it was.necessary to ask your attention, I must now return to bacteria proper.

Bacteria cause the return of dead organic matter to the atmosphere and water. If, then, the equilibrium is maintained between living nature and dead nature, if the air has always the same composition, if the waters are always equally fertilizing, it is thanks to the infinitely minute agents of fermentation and putrefaction. Bacteria also invade the living organism and bring in their attack the double character of infinite smallness in the apparent means and powerful destructive energy in the results. From this source comes disease. The germ theory supposes the invasion of the organism by microscopic parasites or their germs, and considers diseases as a struggle between the organism and the parasites invading it. It discards the old ideas of impurities of the blood, chemical dyscrasia, a genius epidemicus, the omnipotent bug-bear, cold, and eliminates the factor accident, assigning disease, which is a disturbance of the normal play of some one or different parts of the organism—the reaction to an unaccustomed influence—a place in the Darwinian programme of nature.

Among the most potent arguments advanced in favor of the germ theory may be mentioned the following: Every species of living beings throughout nature struggles for its existence with all other beings with which it comes in immediate contact, in many instances the smaller species preying upon the body of larger creatures and deriving from the organism of their host their means of support. Parasitism is of common occurrence throughout the animal and vegetable kingdoms. Indeed, it is claimed that all diseases of plants are of parasitic origin. We also find in the bodies of higher beings the parasitic existence of lower animals, such as intestinal worms, trichina spiralis, the filaria found in the blood of chyluria, etc. The development of lower plants in the interior of animal bodies—in fact, in all animals, down to insects and worms, producing disease, is of much more frequent occurrence, one of the best examples being the pebrine of the silk-worm. In the higher animals and man there are certain affections of the skin due to the growth of various vegetable parasites and different fungi on the affected spot. Now, look at the infectious diseases, and what do we find?

The period of incubation, the unlimited reproductive power of the virus, the cyclical course and self-limitation of the disease.

The stage of incubation can be explained by the assumption of no unorganized virus. All mere chemical compounds and potent chemical poisons with which we are acquainted, even the ferments ptyalin and pepsin, especially when injected subcutaneously, act promptly and begin to manifest the characteristic effects, as soon as absorption has occurred, their poisonous effects bearing a relation to the dose in which they are administered. The stage of incubation is then the period during which the inducted organisms are multiplying. How else can we explain the various durations of the incubative stage characteristic of the different diseases. We cannot conceive that one chemical poison should require two to four days for the manifestation of its constitutional effects, as in scarlet fever, another forty days, as in syphilis; but we know different micro-organisms multiply with different degrees of rapidity. The unlimited reproductive power of the virus, characteristic of many infectious diseases, cannot be attributed to an unorganized poison, or even organic ferment. A drop of blood from an animal poisoned with opium or strychnine exhibits only the power of the diluted poison. A drop of vaccine lymph, of variolous or gonorrhœal pus induces, in successive generations, unlimited quantities of identical material. This effect cannot be justly ascribed even to any physiological unorganized ferment. Ptyalin can, it is true, convert into grape sugar many times its bulk of starch, and the ptyalin is not thereby diminished in quantity; but it is not increased. It does not multiply or reproduce itself. The virus of an infectious disease must be something capable of reproduction, and this power is the peculiar characteristic of an organism. No unorganized poison, acid, salt, alkaloid, ferment is at present known which is capable of manifesting the phenomena shown by the virus of syphilis, variola, scarlatina, etc. The cyclical course and self-limitation of the infectious diseases can also only be accounted for by the vital activity and life history of micro-organisms. Many infectious diseases are intimately associated with climate, soil and topographical features, indeed, indigenous to certain districts.

In nature we also find that many plants and animals of larger growth, as well as microscopic organisms, including fungi, have decidedly limited habitats. What stronger proof is wanted to establish the relation of cause and effect than the mere recital of the above facts? Yet we cannot let the matter rest here. The germ theory has still more substantial foundations—clinically the measures and remedies that have the most beneficial effects in the prevention, treatment and cure of the different infectious diseases have been proven to be antiseptic and germicidal in their properties. Lastly, there is the direct proof of the certainty of the germ theory in the artificial cultivations of micro-organisms, associated with certain diseases and obtained from the subjects of such diseases, in sterilized, nutrient fluids and inoculations with these pure cultures, several generations removed from the original source, thus reproducing the original disease, with all of its characteristic features. Yet, in the face of all this proof, there are some still bold enough to contend that, while admitting the accuracy of the experimental results obtained with micro-organisms, yet, that the invading parasites are the mere carriers of the non-living ferment, which they claim is the special poison causing the disease—possessing all the malignant potency—the micro-organisms being merely secondary or epiphenomena. Inoculation experiments with a pure culture sufficiently removed from the natural infecting material to exclude this hypothesis. If we take a fluidrachm of a sterilized, nutrient fluid, and introduce one minim of infectious material, and then take one minim of this and infect another drachm of culture fluid and carry this on to the eighth culture, the degree of dilution of this original material will be one part in 1,679,611,600,000,000. This infinitesimal portion of a hypothetical chemical virus would therefore practically amount to nothing, and as this eighth culture possesses all the virulence of the first, the poison must be reproductive; therefore bacterial. Besides the organisms, introduced into culture not as seed, disappear as quickly from successive cultures as does the non-living material with which they are associated, and we may very soon leave them out of the account, although each successive culture fluid is invaded throughout by their numerous progeny.

Here a most interesting question presents itself: How do micro-organisms gain access to the human body, and how do they obtain a foothold?

The prevalence of bacteria in the vegetating condition and dried in suspension in the air, evidently brings them into contact with the animal body. They exist usually in a dried state on the surface of the skin and hair, and cannot be removed entirely by washing. With every breath we take, with every morsel of food we consume and with the water we drink bacteria gain access into our bodies. Here they do no harm, if the conditions are unfavorable to their multiplication, if the animal is insusceptible, or, in other words, as some believe, if there is present in the system a chemical substance, the product of the living cells, which is hostile to their reproduction. They then die and are heard of no more. If, on the contrary, we are susceptible, if the animal body contains a certain chemical substance necessary for their sustenance, if they find a favorable soil, bacterial life and activity are soon manifested. Although we may be, to a certain extent, insusceptible, and are possessed of a certain amount of inherent resistance, yet bacteria may evolve a poison themselves, which impairs vitality, and thus gain a foothold, or, our health being below par, our vitality lowered by any cause whatever, by sickness, dissipation, poisons, etc., our resistance is overcome, and they in this way gain a foothold. We may thus have either an inherent or acquired susceptibility. As a result of this victorious struggling with the animal cells, we have produced diseases in their protean types. We are of course speaking only of pathogenic micro-organisms, to which we must now confine our attention.

Now, how is this injury to their host brought about? Probably in three ways:

1. Mechanically, by blocking up the capillaries and the formation of emboli.

2. By appropriating something from the vital fluid or from the tissues invaded by them, e. g., oxygen, etc., which are essential for the maintenance of vital processes in the living animal.

3. By evolving at the same time it appropriates material for its own nutrition, some poisonous chemical product or excreting some zymogen or ferment, which is the immediate cause of the morbid phenomena in the infected animal.

Having thus caused so much mischief, what stops their multiplication? how does recovery take place, and how do they disappear from the system?

The following are offered in answer to these questions:

The products of their own vital activity arrest further development.

They are therefore both bane and antidote.

They consume, or are instrumental in eliminating or destroying some chemical compound necessary for their existence and multiplication. This is the exhaustion theory.

With the death of the bacteria the convalescence of the host begins. The animal cells regain their normal activity. The leucocytes digest the bacteria, or, as Sternberg expresses it: "The bacteria disappear from the circulation by the superior vitality of the white corpuscles, which, in their amœboid motions, may surround and assimilate the captured bacteria." Health is thus reëstablished.

At this stage of my subject several important inquiries present themselves, which I cannot, in justice, pass by:

Prominent among these is the question of immunity.

Although proper functional activity, or the presence of a chemical substance may doubtless decrease susceptibility to infectious diseases, it is evident that such activity does not necessarily confer immunity. At present but two avenues to such acquisition are known:

1. A natural attack.

2. The artificial induction of the disease in a mitigated form by vaccination or inoculation. It is, however, well to remember that

immunity against subcutaneous inoculation is not necessarily synonymous with immunity against infection through mucous membranes especially of the alimentary canal. There are several theories advanced to explain this immunity. The exhaustion theory supposes that during the first attack the organism consumes some chemical compound or pabulum necessary for its growth and multiplication, and as soon as this substance becomes destroyed, the organism cannot further multiply, and that, owing to the subsequent absence of this same chemical compound, a new infection by the same organism is not possible—the individual is protected. The antidote theory contends that the organisms multiplying and growing in the body during the first attack, produce, directly or indirectly, some substance which acts as a sort of poison against a second immigration of the same organism. The tolerance theory assumes that, owing to the first attack, the cells of the tissues so change their nature that they become capable of resisting the immigration of a new generation of the same organism, which property or peculiar qualities they transmit to their progeny through numerous generations. The known facts in regard to the hereditary transmissions of inherent or acquired properties, predispositions and insusceptibilities by the protoplasmic cells would indicate the transmission of such a tolerance. The transmission of acquired properties is shown in the budding and grafting of choice fruits and flowers, produced by cultivation upon the wild stock from which they originated. The acquired properties are transmitted indefinitely, and the same sap which on one twig nourishes a sour crab-apple, on another one of the same branch is elaborated into a delicious pippin. The tolerance to narcotics—opium and tobacco, and to corrosive poisons—arsenic, which results from a gradual increase of dose, are examples of acquired tolerance by cells to poisons, which at the outset would have been fatal in much smaller doses. The next most important consideration is that of environment, for upon the settlement of this point rests one of the foundation-stones of bacteriology.

While it would appear that both septic and pathogenic micro-organisms, when growing under certain extraordinary conditions are capable of suffering some modifications in their morphological and physiological behavior, it is nevertheless stoutly denied, on good grounds, that a septic organism, which cannot ordinarily grow in the living body and is associated with putrefactive changes in dead organic material, can be transformed into a pathogenic organism, which can grow in the living body and cause disease and *vice versa*. The three distinct micro-organisms mentioned as possessing such properties are: bacillus, subtilis, jequirity bacillus, and common mould aspergillus. The arguments advanced in favor of these all fall to the ground. As to the transformation of the bacillus subtilis into bacillus anthracis and *vice versa*, there are shown to be errors of observation and carelessness in experimentation. The jequirity bacillus turns out to be only an epiphenomenon, the pathogenic element resolving itself into the alkaloid jequiritin or ferment abrin. The specific aspergillus is only another species of the common mould. We are then asked how do we explain the production of pyæmia and septicæmia in rodents by the injection of putrid organic substances? The organisms connected with these morbid processes possess this pathogenic power *ab initio*, for although organisms may be morphologically similar, yet they may not be physiologically identical. What, then, must we conclude from all this? There are some definite micro-organisms, although as a rule existing and growing in various substances of the outside world, have the power when finding access into the body of a suitable animal to grow and thrive here also, and to induce a definite pathological condition, but this power is inherent—they have it from the beginning. It cannot be acquired by any means. The leopard cannot change his spots, neither can the lion become a lamb. One had just as well try to transform the bulb of the common onion into the bulb of the poisonous colchicum.

Last, but not least, come attenuation of virus and antiseptics and germicides.

Attenuation of virus or diminution of virulence may be effected by the method of Pasteur of prolonged exposure of virus to contact with oxygen, by the method of Toussaint of subjecting it to a temperature for a short time a little less than is required for the complete destruction of vitality—both of these plans diminishing its reproductive activity, by the method of Chauveau of dilution or inoculating only a small number of active bacteria, which the system is capable of resisting, to a certain extent, by the method of Arloing, Cornevin and Thomas of intra-venous injection, as done in symptomatic anthrax by these experimenters and by the action of chemical reagents, as shown by Sternberg. Virus may also be modified by its passage through different series and species of animals. Also all temporary influences, which, if persistent, would destroy the bacteria, reduce permanently their power of reproduction and of harming the animal body. As for antiseptics and germicides, I can hardly do more than define the terms, for time forbids more than this passing notice of a subject upon which a whole essay could be written. The importance of the subject, therefore, bears no relation to the summary manner in which I shall be forced to dismiss it.

An antiseptic is an agent which is inimical to the growth of micro-organisms, either by changing the nutritive qualities of the necessary pabulum, or by arresting their multiplication or vital activity without necessarily destroying them.

A germicide is an agent that kills the organisms and is fatal to the life and existence of them. It destroys their vitality. The only true test of a germicide is its power to prevent the reproductive activity or multiplication of germs when transferred to suitable culture fluid under favorable conditions. Germicides are antiseptics, but an antiseptic is not necessarily a germicide. Disinfectants destroy or mask foul odors, and all disinfectants of established value are potent germicides. Therefore germicide and disinfectant are, to a certain extent, synonymous terms.

All experimenters agree in placing bichloride of mercury in the front rank as a germicide and antiseptic agent. Next to this Koch places bromine, iodine and chlorine. Carbolic acid, the most common antiseptic agent, is by no means as reliable as is usually supposed. Then come permanganate of potash and osmic acid. Chloride of zinc is very much overrated, and sulphurous acid is unreliable. Alcohol ranks low as a germicide, but is not without value as an antiseptic. Sulphate of iron has decided antiseptic qualities, but its use as a germicide would be a serious error. Sulphate of copper has the highest preventive power of the metallic salts. Iodoform had quite a rage, but has now gone somewhat out of fashion. The list is too long. I must drop it here and refer you for further details and information to special treatises. Thus far no antiseptic or germicide has been discovered which can be administered in sufficient strength to harm the germs or their more resistant spores without injuring the human system.

In conclusion, I must now briefly review the work of various investigators, who have labored most successfully to isolate certain specific parasites in certain diseases. The list of parasitic diseases is too long for me to do more than select a few from the number and classify the pathogenic micro-organisms connected therewith, giving the name also of the experimenter.

As an introduction to this most interesting topic, I would state that it requires but very few micro-organisms to cause disease—sometimes a single germ being sufficient, for such is their reproductive activity that a single germ multiplying by binary fission, under favorable conditions, would fill the ocean in five days.

While it is acknowledged that fermentation and putrefaction are due to the life-work of micro-organisms, it is also admitted that the relation of micro-organisms to the infectious diseases is very intimate, and is definitely proven to exist as regards some of the infectious maladies. In no instance, however, can it be said to have been satisfactorily proved that a particular infectious disease is due to a particular micro-organism, if any one of the following conditions remained unfulfilled, as pointed out by Koch :

1. It is absolutely necessary that the micro-organism in question is present, either in the blood or diseased tissues of man or of an animal suffering or dead from the disease.

2. It is necessary to take these micro-organisms from their nidus, from the blood or tissues, as the case may be, to cultivate them artificially in suitable media, i. e., outside the animal body, but by such methods as to exclude the accidental introduction into these media of other micro-organisms ; to go on cultivating them from one cultivation to another for several successive generations, in order to obtain them free of every kind of matter derived from the animal body from which they have been taken in the first instance.

3. After having thus cultivated the micro-organisms for several successive generations, it is necessary to reintroduce them into the body of a healthy animal susceptible to the disease, and in this way to show that this animal becomes affected with the same disease as the one from which the organisms were originally derived.

4. Finally, it is necessary that in this so affected new animal the same micro-organisms should again be found.

A particular micro-organism may probably be the cause of a particular disease, maybe constantly associated with it and none other. Take trichinosis, for example. No one doubts that trichina stands in causal relation to this disease, yet no one has ever induced the disease by the introduction of the isolated worms. By analogy, if this is true of trichina spiralis, why is it not true of other micro-organisms, which, like trichina spiralis, can only claim constant association with a particular condition and absence in all others? Deductions, however, are not demonstrations, and that a particular micro-organism is really and unmistakably the cause of a particular disease can only be inferred with certainty, when every one of the above desiderata has been fully satisfied—when, as it were, a bacteria, well washed of all ambient organic living matter, has been isolated on the point of a needle and then introduced into a sterilized nutrient solution, cultivated for several successive generations, and then carefully inoculated with consequent results, which cannot be misinterpreted. Science is exact truth.

*Anthrax.*—Anthrax, also called splenic fever, charbon, or, in the localized form usually seen in man—malignant pustule, wool-sorters disease and milzbrand by the Germans, is the first and best known instance of a disease definitely traced to the invasion of the body by a vegetable parasite, bacillus anthracis. Koch has induced the disease by the 115 successive culture upon solids. About this all controversy has ceased.

Pollender, Branell, Davaine and Bollinger recognized in the blood of animals, dead of anthrax, stiff, short and long rods, which Davaine called "Bacteridie du Charbon." They were identified by Cohn as bacilli, in morphological respects similar to bacillus subtilis, except that the bacilli anthracis are non-motile. Koch's absolute proof has been verified by Pasteur and many others.

*Symptomatic Anthrax.*—Symptomatic anthrax, also called emphysema infectiosum, quarter, evil and black leg, according to Arloing, Cornevin and Thomas, is characterized by the presence of a microbe, which has distinct morphological characters, and which differs essentially from the bacillus anthracis,. It is shorter and broader than the bacillus anthracis, is rounded at the extremities, is extremely mobile and is nearly always provided at one extremity with a refractive spore. Sometimes the rod is very long and has a spore at each extremity. Inoculations with the bacilli into the subcutaneous tissue of guinea-pigs, rabbits, sheep and calves always prove fatal, the same subcutaneous hemorrhagic effusions, characteristic of the disease, being produced.

*Cerebro-Spinal Meningitis.*—Leyden reports the finding of oval micrococci in great numbers, occurring both singly and in chains, in recent lymph, obtained by hypodermic syringe from beneath the pia mater of the spinal cord in a sporadic case of this disease. I can find no evidence of inoculation experiments being performed, and hence their presence is merely suggestive.

*Cholera.*—Epidemiologists explain the origin and extension of this disease by the existence of a germ, and the facts would seem to so indicate. To study this disease bacteriologically there are many difficulties to contend with. The human intestines are a hot-bed of micro-organisms and a multitude of harmless germs are constantly present in the discharges from the bowels of healthy persons and cholera patients as well. Besides, it is claimed that no one of the lower animals has yet been proved to be susceptible to the disease, which fact deprives us of the method of inoculation with pure cultures—the only true standard of cause and effect. The French, English and German governments sent commissioners to study this disease in Egypt and India. In 1883 Dr. Koch, in his sixth cholera report, states that the bacilli which in their earlier reports the commission were unable to determine as strictly limited to cholera, were now accepted by them as holding a specific relationship. Their distinguishing characteristics are, briefly: "They are not quite straight, as are tne other forms of bacilli, but slightly curved, comma-like; this bending may be so marked as to be almost semicircular. From these curved stems, *s*-shaped figures, more or less elongated, slightly undulating, linear forms may be developed in pure cultivations, of which the first two segments and the last correspond to the form of the bacilli as found in cholera, and which, continually increasing in number remain attached to one another." Thus they closely resemble a spirillum. They have very active voluntary movements. They are found in every genuine case of cholera, whether in Egypt, India, Italy, France or Spain, and there is no positive, conclusive demonstrations of their presence in any other condition or disease. They were observed in all the intestinal discharges and in the contents of the intestinal canal of cholera patients at post-mortem examinations and only in one instance in the various specimens of dirty water examined. Dr. Koch found them in the water of a tank that had produced cholera in several people who had partaken of it, and noticed that as soon as the bacilli disappeared from this water the cholera cases ceased. Dr. Koch, in discussing the relationship of these growths, states that the development of the supposed specific bacteria can only be favored by the cholera process, or that the bacillus is the cause of the disease, and that the disease is only induced when it has found its way into the intestine of man. If the first supposition is allowed, these bacilli are always present in health, which is stated as not the fact. Therefore he concludes that the growth of the bacteria cannot be due to the cholera process, and there is nothing left but the inference that it is itself the cause of the disease. Many other circumstances are emphasized as pointing to the same conclusion. They are limited to the organ which is the seat of the disease. They invade its tissues, which become markedly metamorphosed. In the earlier dejections of a cholera patient, so long as they are still feculent, the bacilli are few, but the subsequent watery, nearly odorless, characteristic dejections contain the bacilli in immense numbers, and coincidently all other bacteria disappear almost completely, so that in this stage of the disease an almost pure cultivation of the bacilli is obtained. Conversely, the comma-like bacilli decrease and disappear completely during convalescence. This general relationship also holds good as observed from post-mortem examinations. The great majority of observers in India and elsewhere give it as their unqualified opinion that cholera is infectious and may be transmitted, not only from individual to individual, but in a variety of ways to great distances. It is also well to remember that the bacteria of decomposition destroy the germs of cholera. Drs. Klein and Gibbes, of the English Cholera Commission, have identified the comma bacillus of Koch, which is a pathological feature of cholera cases. They have been unable to find that the microphyte is possessed of any pathogenic properties. In their preliminary report from Bombay and Calcutta the principal and most important points stated are:

1. That comma bacilli are not characteristic of cholera, since they are present in epidemic diarrhœa, dysentery and in intestinal catarrh, associated with phthisis.

2. That they have discovered a peculiar minute straight bacillus, which is of more constant occurrence in choleraic discharges than the comma variety.

3. That both of these micro-organisms behave precisely like other putrefactive organisms when cultivated artificially.

4. That no bacteria of any kind and no organisms of known form and character occur in the blood or any other tissue.

5. That finally all attempts made by the investigators to induce cholera in animals by either feeding or inoculation with these germs, have signally failed. Drs. Klein and Gibbes therefore contend that Koch's comma bacillus is neither the specific organism of Asiatic cholera, nor is it practically of any diagnostic importance. This is the severest blow the cholera comma bacillus has ever received. It remains to be seen, however, whether they have proved by cultures the morphological and physiological identity of dysenteric and other bacilli with those of cholera. A single positive inoculation experiment is far more valuable than all the negative evidence. It must also be proved by Klein and Gibbes that the inoculations of pure cultures by Koch and by Nicati and Rietsch did not, as claimed, produce genuine cholera. In a supplementary report later on Dr. Klein refers to the tank water, which was collected in a limited cholera district in Calcutta. This is the same tank in which Koch found the comma bacilli, and on the presence of which in the water he largely based his theory. Dr. Klein admits the undoubted finding of the bacilli in the tank, but adds: "There has occurred during the whole of November, 1884, one single case of cholera, although about two hundred families use the water." Next comes the report that while Dr. E. Van Ermengen claims to have successfully inoculated dogs, rabbits and guinea pigs with the cultivated comma bacilli. Dr. Klein has had a bacterial dinner—swallowing liberal doses of comma bacilli in pure culture, and Dr. Bochefontaine, chief of Vulpian's laboratory, has himself taken a drachm of the intestinal discharge from a cholera patient in the form of pills—both of these gentlemen being unaffected thereby. Dr. Koch replies that all of the gentlemen, especially Lewis and Finkler and Prior, previous to this last cholera commission, who have questioned his results, have not shown sufficient care in the conduct of their own experiments. He sees no reason as yet to lose faith in the importance of his discovery, but on the contrary claims to have repeated with success in his own laboratory the Nicati and Rietsch experiments in regard to the artificial production of cholera in the lower animals. However, the *British Medical Journal* of January 31st, in giving a resume of Dr. Klein's report from India on the cholera bacillus states that Dr. Koch appears to recognize that he has not established the fact that the comma bacillus is the cause of cholera, and that he proposes to return to India to make further investigations at the earliest date that his duties in Berlin will permit.

Opposed to this conclusion, however, is the result of a recent debate at the Royal Medical and Chirurgical Society of London between Drs. Klein and Gibbes opposing, and Dr. Watson Cheyne especially advocating the specific characters of Koch's comma bacilli of cholera. To record it briefly and pointedly it must be admitted that Koch's doctrine of their causative relations was not at all shaken. Thus this all-important and all-absorbing matter for bacteriologists to decide rests. We must either await further developments, or, in the midst of these conflicting opinions, decide the matter for ourselves according to our best judgment. An address delivered a few days ago in New Orleans before the American Medical Association by Dr. Henry D. Didama, of New York, relieves us, however, of this embarrassment. From it we gather that Dr. Klein at last admits that Koch's comma bacillus is indirectly the cause of cholera, and as *qui facit per alium facit per se*, the formula is justified: No comma bacillus, no cholera. Such must be the conclusion after such a checkered experience, like that of its brother, the bacillus tuberculosis.

*Cholera of Fowls.*—Pasteur has furnished satisfactory experimental evidence that this infectious disease of the domestic fowl is due to a micro-coccus.

*Diphtheria.*—In the pseudo-membranes of this disease micro-organisms, especially micro-cocci, occur in great numbers. The micro-coccus diphtheriticus is the most constant, and was discovered by Buhl, Hueter and Oertel. Oertel was the first to describe them, and they have since been demonstrated by Von Rechlinghausen, Wassiloff, Waldeyer, Klebs, Eberth, Heiberg and others, in the most different organs and tissues. Drs. Wood and Formad have given them a very full description. Oertel and Eberth are very sure of their causal relations. Klebs claims to have produced diphtheria in animals by the inoculation of pure cultures. Drs. Wood and Formad inoculated pure cultures in a number of instances, resulting in the death of the animal, micro-cocci being abundant in all cases, thus giving support to the view that they are the infectious agents. Dr. H. O. Marcy also claims specific properties for them. There is some doubt thrown upon the accuracy of these experiments and the deductions therefrom. The results are not universally accepted, owing especially to a lack of precaution to prevent contamination of the cultures. On the contrary, Ewart claims a bacillus and Letzerich a fungus as the infectious agent.

Finally, organisms morphologically similar, at least so far as the micro-cocci are concerned, being found in the mouth and fauces of healthy individuals and of patients suffering from other diseases in which the throat is involved, such as scarlet fever, etc., causes great opposition to the acceptance of the causal relation of the micro-coccus diphtheriticus. We must, however, remember that morphological similarity does not necessarily mean physiological identity.

*Erysipelas.*—Fehleisen has proven by cultivation and inoculation experiments upon men and animals that this disease is due to the micro-coccus erysipelatosus.

*Milk Fever Epidemic of Aberdeen.*—This disease is supposed by Dr. Ewart to be due to a bacillus resembling the anthrax bacillus. The evidence, though not conclusive, is strongly supportive of his view.

*Salmon Disease, etc.*—Prof. Huxley's salmon disease, or saprolegnia, and Dr. Ogles' disease among the perch of Lake Geneva are due to bacteria.

*Glanders.*—Schutz, Loeffler, Israel and Bouchardt have found in glanders a bacillus, cultivated it and by inoculation reproduced the disease. The bacillus resembles the bacillus tuberculosis in shape and size, but is readily stained by methyl-blue. It is found in the tubercles, which are characteristic of the disease.

*Gonorrhœa.*—In the pus from gonorrhœa Neisser detected a micro-coccus, which he called gono-coccus and for which he claimed specific characters and properties. Inoculations performed by him were not successful. Unfortunately for science, but not for animals, the lower animals are not susceptible to the contagion, even from inoculations of the most virulent pus. With that self-sacrifice, however, always characteristic of the medical student, in order that science might not suffer from lack of experimental material, six medical students were inoculated with the cultivated cocci by Bokair in Pesth and three were successfully infected. Some are ungenerous enough to suspect that the disease in these three might have been contracted in the usual way, as it was neglected to keep them in solitary confinement during the trial. Bockhart has also inoculated with a fourth culture a paralytic, producing a typical gonorrhœa. Dr. Sternberg claims the culture was not carried on to a sufficient degree, has gotten only negative results from his pure culture inoculations, and states that Neisser's gono-coccus is widely distributed, and is, in fact, the same as that which Pasteur has shown to cause the fermentation of urea. Thus far, therefore, it is not decisively established that this associated micro-organism is the veritable cause of the disease.

*Hydrophobia.*—Pasteur claims that the virus of this disease is associated in the saliva of rabid animals with various microbes. The specific organism, if any exists, has not yet been isolated.

*Malaria.*—Klebs and Tommasi Crudeli have discovered a bacillus which they call the bacillus malariæ, in the soil of the Roman campagna. Marchiafava and Cuboni find them in the blood of patients suffering from malaria. Inoculations of rabbits with the cultivated or original bacilli produced a febrile disorder, which Klebs and Tommasi Crudeli consider analogous to the human intermittent fever. Whether so or not we cannot say, as we do not know what form malaria assumes in the rabbit. The experiments of Sternberg, made with bacilli material derived from soil from malarious American districts, do not support the view of Klebs and Tommasi Crudeli. The febrile disorder observed by him had nothing of the character of human intermittent fever, and besides could be produced by other bacilli than those of malarious soil. Therefore the experimental supports of the bacillus malariæ are as yet insufficient and not convincing, though quite probable. Laverau and Richard have described as the cause of malaria the oscalaria malariæ, of the same nature as the pigmented bodies, heretofore described as melanotic leucocytes. As yet there is nothing definite about this discovery.

*Leprosy.*—Hansen has described a bacillus lepræ associated with the leprous tubercles or nodules, not unlike the bacillus tuberculosis. Neisser confirmed Hansen's demonstrations. The bacilli have been successfully cultivated, but the inoculation experiments have given only negative results.

*Koch's Malignant Œdema.*—This affection (also called Pasteur's septicæmia) is due to a bacillus, of which an artificial culture has reproduced the disease. Charbon symptomatique, or rauschbrand of cattle, is believed by some to be the same disease. Brieger and Ehrlich have observed the disease in man from the subcutaneous injections of tincture of musk, contaminated with these bacilli.

*Milk Sickness.*—This is an infectious disease, which prevails in certain rurai districts in the United States. The experimental method has not yet proven its parasitic nature, though Dr. Phillips has detected a micro-zyme (spirillum) in the blood.

*Measles.*—Le Bel has discovered a vibrio in the urine and furfuraceous scales of the skin of measles patients, which he never met with in other diseases. Coze and Feltz, Klebs, Braidwood and Vacher find other organisms. Keating, confirmed by Formad, has recently reported the finding of micro-cocci in the blood of malignant measles and their absence in cases of mild type. In all cases the same micro-organism was found in the cutaneous lesions. I can find no evidence of successful inoculation experiments, and therefore we must place these organisms in the role of mere association at present.

*Pleuro-Pneumonia.*—Bruylants and Verriers claim the cultivation of the micro-coccus of this disease, and Pœls and Nolen the production of the disease by artificial cultures of the micro-cocci derived from either human pneumonia or pleuro-pneumonia of cattle, which to them seemed morphologically identical. Protective inoculations are successfully practised in this disease.

*Pneumonia.*—Klebs, Eberth, Koch, Leyden and others, have found in acute crupous pneumonia in the affected lungs large numbers of micro-cocci, but Friedlander was the first to point out their constant occurrence, and called them pneumo-cocci. Friedlander and Frobenius have cultivated them, and claim to have sometimes obtained positive results and sometimes failed. Their positive results are not generally accepted, as some seem to think they have mistaken septicæmia for pneumonia. We must therefore for the present consider the pneumo-coccus as sub-judice.

(Concluded in next Number of JOURNAL.)

# AN ANALYSIS OF YAUPON LEAVES.

By Frank W. Venable, Professor of Chemistry University of N. C

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The Yaupon (Ilex Cassine Linn) is described by Dr. Curtis as an elegant shrub 10 to 15 feet high, but sometimes rising into a small tree of 20 to 25 feet. It has, according to the same authority, for its habitat the strip of country from Virginia southward along the coast, never extending, however, very far into the interior. The leaves are ½ to 1 inch long, with a smooth surface and fine serrated edge. The plant is an evergreen, and its dark green leaves and bright red berries make it attractive as an ornamental shrub. In the region of the Dismal Swamp and in other sections the leaves are annually gathered, dried and used for tea. This decoction is, according to Curtis, oppressively sudorific, at least to those unaccustomed to its use. The famous Black Drink of the Southern Indians was made from the leaves of this shrub.

"At a certain time of the year they come down in droves from a distance of some hundred miles to the coast for the leaves of this tree. They make a fire on the ground, and, putting a great kettle of water on it, they throw in a large quantity of these leaves, and, setting themselves around the fire, from a bowl that holds about a pint they begin drinking large draughts, which in a short time occasions them to vomit freely and easily. Thus they continue for a space of two or three days, until they have sufficiently cleansed themselves, and then everyone taking a bundle of the leaves, they all retire to their habitations."

Having on hand a small sample of these leaves procured from New Berne during the winter of 1883, it seemed desirable to make an examination of them to decide, if possible, the presence of any alkaloid or other principle which would make the decoction useful as a beverage. The usual treatment with magnesia oxide, exhaustion with water, separation by means of chloroform and subsequent purification, was adhered to, resulting in obtaining a small amount of a white substance slightly soluble in water, more so in alcohol, and easily soluble in chloroform, which gave distinctly the tests for caffeine, especially the unmixed reaction, and very closely resembled a specimen of pure caffeine from Powers & Weightman. This caffeine formed 32 per cent. of the dried leaves.

Later on in May a much larger supply of the same leaves was gotten from the neighborhood of Wilmington. A more thorough examination of them was then made made with the following result:

| | |
|---|---|
| Water in air-dried leaves, | 13.19 |
| Aqueous extract, | 26.55 |
| Tannin, | 7.39 |
| Caffeine, | .27 |
| Nitrogen (by combustion), | .73 |
| Ash, | 5.75 |

The analysis of the ash is shown in column (I) below

| | I. | II. |
|---|---|---|
| $Ca O$ | 10.99 | 12.34 |
| $Mg O$ | 16.59 | 11.39 |
| $Na_2O$ | .47 | 7.28 |
| $K_2O$ | 27.02 | 2.98 |
| $Mn O_2$ | 1.73 | 2.50 |
| $Fe_3O_2$ | .26 | 3.41 |
| $SO_3$ | 2.50 | .92 |
| $Cl$ | .66 | .71 |
| $P_2O_5$ | 3.34 | 5.54 |
| $Si O_2$ | 1.32 | 44.75 |

The Maté or Brazilian Holly (Ilex Paraguayensis) belongs to the same genus. Its ash analysis, as made by Sénor Arate, is given in column (II). The plant grows wild in Brazil, and is very largely used by the South Americans. It has, according to Peckott (Pharm. J. Trans. [8] 14, 121–124. Abstract in London Chem. Soc., J. 1884, 479), been planted, and seems to succeed well in the Cape of Good Hope, Spain and Portugal.

It is stated that six different species of Ilex are used in the preparation of this tea.

Peckott gives in his analysis of the air-dried leaves the percentage of caffeine as .639. The average percentage by different authors is 1.3.

I can find mention of only one other Ilex used as a substitute for tea. The analysis of this by Ryland & Brown is quoted in Blyth's "Composition and Analysis of Foods," p. 843. It is called the Ilex Cassiva, is said to be used as a tea in Virginia, and the percentage of caffeine is given as .12. This is probably the same thing as the Yaupon, the analysis of which is given above.

# TYROTOXICON—CHEESE-POISON.

Abstract of a Paper by Prof. V. C. VAUGHAN, M.D., Ph.D., at the meeting of the Michigan State Board of Health, July 14, 1885.

Dr. Vaughan presented a report of his investigations on poisonous cheese. It is well known that cases of severe illness following the eating of some cheese. Such instances are of frequent occurrence in the North German countries and in the United States. In England they are less frequently observed, while in France, where much cheese is made and eaten, these cases are said to occur very rarely. A few years ago the reputation of a large cheese factory in Northern Ohio was destroyed by the great number of cases of alarming illness arising from eating its cheese. Dairymen know this cheese as "sick" cheese.

## KINDS OF CHFESE THAT ARE POISONOUS.

A German author says: "The numerous kinds of soft cheese, prepared in small families, or on small farms, are generally the cause of the symptoms, while it is quite exceptional to hear of symptoms arising from the use of cheese prepared in large quantities."

Some two years ago a family in Alpena, Michigan, was poisoned by eating of cottage cheese; but the cheese which poisoned so many in this State last year was made at one of the largest factories in the State, and by a thoroughly experienced cheese-maker. The old foul-smelling cheese, such as Limburger and Schweitzer, have never been known to be poisonous.

## EFFECTS OF THE CHEESE.

The symptoms produced by "sick" cheese, as reported by German and American physicians, agree quite closely and are as follows: Dryness of the mouth and throat, with a sense of constriction, nausea, vomiting, diarrhœa, headache, sometimes double vision, and marked nervous prostration. In rare instances the sufferer dies from collapse. As a rule recovery occurs in a few hours, or at most after a few days. The symptoms of cheese-poisoning and those of sausage, canned meats and fish-poisoning, are very similar. Though death results more frequently from the others mentioned than from cheese-poisoning,

### APPEARANCE OF THE CHEESE.

The samples of cheese examined had no peculiarities of appearance, odor or taste, by which it could be distinguished from good cheese. It is true, that if two pieces of cheese—one poisonous and the other wholesome—were offered to a dog or a cat, the animal would select the good cheese. But this was probably due to an acuteness of the sense of smell possessed by the animal and not belonging to man. Indeed, if a person tasted a cheese knowing that it was poisonous, he might detect a sharpness of taste which would not ordinarily be noticed.

### HAVE WE ANY READY MEANS OF RECOGNIZING POISONOUS CHEESE?

There is no certain means aside from a chemical examination by which a poisonous cheese can be distinguished from a wholesome one. The most reliable ready method is probably that proposed by Dr. Vaughan a year ago, and it is as follows: Press a small strip of blue litmus paper (which can be obtained at any drug store) against a freshly cut surface of the cheese; if the paper is reddened instantly and intensely, the cheese may be regarded with suspicion. When treated in this way any green cheese will redden the litmus paper, but ordinarily the reddening will be produced slowly and will be slight. If the piece of cheese be dry, a small bit should be rubbed up with an equal volume of water, and the paper should then be dipped in the water.

Dr. Vaughan does not regard the above test as free from error, but as the most reliable ready means now known. Every groceryman should apply this test to each fresh cheese which he cuts. The depth of the reddening of the paper may be compared with that produced by cheese which is known to be wholesome.

### EFFECTS ON THE LOWER ANIMALS.

Dogs and cats, at least, are not affected by eating poisoned cheese. This is probably due to the fact that they do not get enough of the poison from the amount of cheese which they eat. The pure isolated poison in sufficient doses would undoubtedly produce upon the lower animals effects similar to those produced on man.

### NATURE OF THE POISON.

Dr. Vaughan has succeeded in isolating the poison, to which he has given the name Tyrocoxicon (from two Greek words which mean cheese and poison). It is a product of slight putrefaction in the cheese which probably occurs in the vat, as the curd has been known to poison a person. By this slight putrefaction, or excessive fermentation, as it may be called, a large amount of butyric acid is formed, and this in the presence of the casein of the cheese, is capable of developing a poison. Different samples of poisonous cheese contain different amounts of the poison. The same weight of cheese from one cake furnished three times as much poison as that from another cake. The poison was obtained in long needle-shaped crystals, which are freely soluble in water, chloroform, alcohol and ether. The smallest visible fragment of a crystal placed upon the end of the tongue causes a sharp, stinging pain at the point of application, and in a few minutes dryness and constriction of the throat. A slightly larger amount produced nausea, vomiting and diarrhœa. The poison is volatile at the temperature of boiling water, and for this reason even poisonous cheese may be eaten with impunisy after being cooked. The substance has also a marked, pungent odor, and through the nose one can obtain sufficient of the volatile poison to produce dryness of the throat. This is true, however, only of the isolated poison. In the cheese the taste and odor of the poison are both modified to such an extent that they would not be recognized, as has already been stated.

The first step in the study of cheese-poisoning has now been taken, by finding out what the poison is. Efforts will be made to ascertain the means for preventing its formation.

# EXENTERATION OF THE EYE—A SUBSTITUTE FOR ENUCLEATION.

By MIDDLETON MICHEL, M.D., of Charleston, S. C.

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The memoranda of a case of shot-wound of the eye recently under my care, furnish on this occasion some reflections on a method of operation that promises perhaps better results in the future, than the more destructive procedure of enucleation always resorted to at present as the surest means of preventing sympathetic ophthalmia.

The introduction of enucleation into ophthalmic surgery secured, it is true, a very certain arrest of all irritative and destructive sympathetic radiation that otherwise sooner or later inevitably compromise the sound eye; but it has also served to impress us with certain dangers of possible recurrence with which we are familiar, who have often practised this operation. Indeed, extension of inflammatory action to the meninges, and even death, that have sometimes taken place consequent upon this operation, explain the anxious solicitude and brilliant anticipations expressed on every hand when first we heard of optico-ciliary neurotomy as a substitute for enucleation; and the regret subsequently experienced when even this method failed to realize all that was promised in its behalf. Not that we mean to imply that enucleation must not, indeed, be always performed in malignant disease, but simply that for the single object of cutting off sympathetic communication with the sound eye when the lost one becomes the source of irritation, some less disfiguring yet equally effective operation might be devised.

It is only within a few months that an attempt has been made to destroy all neural connection with the sound eye by removal of the injured organ without opening the capsule of Tenon; without involvement of the orbital cellular tissue, yet still retaining the sclera with its several muscles as a movable stump for subsequent support of an artificial eye.

Such an operation within the few past months has been executed in Hall, and in England, and by myself a few weeks since.

While it may be predicated of this new operation that it is wholly exempt of danger to life, still the few cases recorded so far are only presumptive evidence that it is destined to fulfil all the requirements and indications of a successful operative procedure. The complete destruction of the peripheral relations of long or short ciliaries and optic nerves; the obliteration of bulb by removal of its contents; the uninjured capsules of Tenon and Bonnet; the non-invasion of subconjunctival tissue; in other words, an untouched orbital cavity, yet an eye thoroughly removed, are the salient conditions of a procedure that seems to foreshadow the speediest cure and surest results.

This simple method consists in opening the eye just beyond the sclero-corneal border, as in the operation for staphyloma, finishing the abscission of the anterior segment of the bulb with scissors, then with scoop or curette, introduced between choroid and sclera, enucleating the contents of the globe, eviscerating the organ so as to destroy completely all ciliary and optic connection with the sclerotic, arresting hemorrhage and cleansing the sense-capsule with cotton compresses dipped in a weak solution of corrosive sublimate then suturing the scleral cup with two or three catgut ligatures, all of which is conducted under a continued antiseptic spray of corrosive sublimate.

So far as the encheiresis involved in this method of operation is concerned, contrasted with enucleation or optico-ciliary neurotomy, the preference, even in the hands of an expert, would seem to be in favor of exenteration or evisceration; but it remains to be ascertained whether the healing process will always be rapid and unattended with any complications. I have had but a single opportunity of testing the results of exenteration which occurred recently, and I will now relate the case:

Isaac S., white, aged 20 years, native of Hamburg, residing in Summerville, S. C., came to me April 3, 1885. Shot in the right eye by a robber who waylaid him in Summerville on the night of the 2d April, the eye became immediately swollen and dreadfully painful. The next morning, the pain being still more severe, and discovering that sight was gone, that not even perception of light remained, he was brought to the city, and being a Jew, he applied as a stranger to the Hebrew Benevolent Society for instruction, and he was sent to me by letter from the President, Mr. M. Triest. He was taken to a private boarding-house, and every arrangement made to operate upon him the next day, as he was informed that his eye was lost and would have to be removed lest it should induce sympathetic irritation in the other eye.

*Present Condition.*—Right eye and eyelids very much inflamed, painful, swollen ecchymosed; eye black and blue, the effusion of blood extended to the cellular tissue of the face around the orbit. No fracture of bones about the orbit, no emphysema, no wound of the integument about the face or eyelids. A penetrating wound of the cornea, through which a bead of aqueous appeared as often as it was wiped away, was already surrounded by a zone of effused lymph, and occupied the ciliary border. Through the nebulous cornea the pupil irregularly dilated could just be discerned. In the lower and outer half of anterior chamber a white deposit was seen, to which the iris was attached, resembling a hypopyon of some duration. The aqueous was sufficiently clear to permit a view of the iris and pupil, but from the fundus we obtained no reflex, for the vitreous seemed the seat of intraocular hemorrhage, and T. was + 1, which obscured the fundus and interdicted the discovery of any foreign body like a shot. Steady increase of pain and inflammation since Wednesday, the day of the accident; position of the corneal wound near ciliary zone; accompanying chemosis of both lids and ocular conjunctiva; and the loss of nearly all light perception proved that the eye was irrevocably lost, either from penetration of a spent shot lodged in some part of the organ, or from laceration of cornea from the same source, consorted with concussion. There were already synechia and atresia of pupil that threatened painful iritic and cyclitic complications at no very distant period, conducting inevitably under these circumstances to monocular destruction and most probably to sympathetic ophthalmia. For these reasons, to save the sound eye and abridge the duration of cure, and his detention in the city, we advised immediate surgical interference, which he requested me at once to undertake.

Exenteration was performed the next morning, April 4th. Desirous of testing the efficacy of hydrochlorate of cocaine in an operation of this character, as I had obtained most satisfactory results from its employment in minor operations, instillations of a few drops of a solution of one grain to the drachm, were made to the whole surface of the eye at intervals of three minutes or more for over twenty minutes, until local anæsthesia seemed fully induced. The pressure of the speculum upon the œdematous and chemotic lids was, however, not unattended with inconvenience; and after the first steps of the operation through superficial parts were seemingly unfelt, such undisguised pain ensued as we progressed, that we had to suspend the operation and resort to ether to secure the best results for this new procedure. Under a continuous spray of corrosive sublimate solution 1 to 4000, with fixation forceps, keratome and scissors, abscission of the front of the eye was readily accomplished, when, with a vulcanite scoop, passed by a to-and-fro movement between the choroid and sclerotic to the fundus evisceration followed, aided by curette and scissors, not without some difficulty, especially in detaching the retina from the canalis opticus.

The vitreous was discolored by extravasated blood, and more hemorrhage occurred from the fundus than I had expected. In the hemorrhagic contents removed, I sought in vain for any trace of shot, which shows how difficult, even impossible, it often is to say whether the foreign body has penetrated the eye. After cleansing the sclerotic cup this was closed by three sutures, and formed an excellent stump. With the exception of soreness, by the next day all circum-orbital pain subsided, and, although a very considerable chemosis subsequently occurred, protruding the tarsal cartilages and everting both lids, this condition was relieved by free scarification. Cooling applications of lead lotion were substituted now for Warlemont's wash, which had been applied previously to allay the ciliary neurosis and orbital pains with which he had previously suffered.

In staphylomatous eyes recovery from enucleation is more rapid than from abscission, for in the latter case we leave a scleral cup containing such elements (as choroid, retina and vitreous) that undergo retrogressive changes, sometimes of a destructive nature, even should no suppuration occur ; but after exenteration the empty sense-capsule, with no structural element likely to take on inflammation, is supposed to heal with rapidity, as cures are said to occur in two days. I was disappointed to find in my case that this was delayed for two weeks, with no elevation of temperature or pain, but with some secretion of a muco-purulent discharge, though very slight. I am disposed to refer this delay to damage done by the accident and to the extraordinary chemosis that occurred in consequence of the deferred operation. It is possible that had exenteration been immediately performed convalescence would have ensued in two or three days, for, after scarifying the conjunctiva, the subsidence and deferescence that followed showed the cicatrix of a wound, that, from its firm and insensitive nature, must have been for sometime healed.

The superiority of this new operation for cosmetic purposes is apparent in the symmetry of a prominent and rounded stump, moved by each and every one of its muscles in harmony with the other eye, furnishing a solid support for the glass eye.

Enucleation, on the contrary, entails a permanent deformity upon the sufferer, since the empty orbit offers no longer any support to the eyelids, which, falling in, are no longer able to conduct the tears to the puncta, this secretion becoming a source of constant irritation unless the lachrymal gland be also excised.

Again, an irremediable symblepharon often results from cicatricial contractions that interdicts the possible introduction or retention of an artificial eye, a condition that has too often embarrassed our efforts to give this a proper support.

Among the greatest advantages of the new operation, however, is the pleasing assurance that not having opened any of the intravaginal lymph spaces of the orbit, no traumatic pathway obtains for the conduction of morbid products to the meninges or to the brain.

Since the writing out of this case, enabled as I have unexpectedly been to perform another exenteration and this before the members of this Association in session, I shall here detail the additional operation which they witnessed and its results, as constituting, so to speak, a part of our proceedings:

Charlotte C., negro, of about 50 years, domestic, native of this city, living in Henrietta street, was sent to me April 22, 1885, with a disorganized globe, from a blow of splintered wood. She was cutting wood with an axe, when a splintered fragment flew up, striking her in the right eye. This occurred three weeks ago. On receipt of the injury the sight was immediately lost, and since its occurrence she has had no rest, no ease from the constant pain in orbit and around the eye, even along the region of the temple. Her sufferings have not diminished, but are increased when she is in the recumbent position. The other eye is now so "weak" that she cannot look at an object without its "watering" so much that her sight is obscured. She thinks the "sight must be gone in the injured eye, as she cannot see with this eye, not even light." She says "her good doctor has been doing everything for her; putting drops into her eye, but they have done her no good," and she wants me "to take out the eye," which she knows "will ease her, just as if you took a rotten tooth out of her head." This we promised to do to-morrow.

*Present Condition.*—Phthisis bulbi of right eye. Cornea exhibits a deep leucoma occupying its lower half, iris attached, pupil nearly obliterated and discolored; sclerotic intensely congested; globe prominent and tense, painful on pressure, V = o; circumocular chemosis; epiphora; orbital and temporal neuralgia.

Operation was performed April 23d, before members of the Association, at 12 o'clock. Exenteration was again followed by considerable bleeding, as in my previous case, controlled by lint and ice. Chloroform was administered, sclera sutured, and cold compresses applied. Globe was found disorganized by lymph deposits, and iris adherent to cornea in part.

April 24.—Pain has greatly disappeared, though still sufficient to disturb her rest. No appetite, temperature normal, no discharges on dressing; cold compresses to be continued.

25th.—Condition the same. Œdema about upper lid. Considerable serous chemosis. Scarified conjunctiva freely. Compresses dipped in Goulard's lotion and tr. opii continuously applied.

25th.—Œdema of upper lid considerable. Chemosis so great that it projects entirely out of orbit; scarified again.

28th.—No pain whatsoever, up and moving about. Scarifying has not notably subdued the swollen conjunctiva.

30th.—Lid less swollen. Chemosis slowly receding. Lotion continued.

May 7.—To-day two weeks chemosis considerable; no apparent inconvenience from exposure of protruded conjunctiva to dust and air.

13th.—Turgescence of mucus much decreased, though still sufficient to conceal the sutures, which, after search, were found firmly attached to a remarkably bulbous sclerotica, that had by no means collapsed; the plica semilunaris projects, discolored at inner canthus. On drawing upon these sutures a prominent and resistant bulb, T = 2, still readily determined by the touch, showing that, as yet, no shrinkage to any perceptible degree has occurred, though this is three weeks since the operation. Pressure on upper eyelid, when closed, discovers the globe very easily, as it moves in different directions drawn by the muscles. The sutures were removed to-day.

A feature of constant attendance upon these two operations was the remarkable chemosis ensuing within a few days, so considerable that the conjunctiva bulbi protruded entirely beyond the palpebral fissure, completely burying the lower lid, and concealing all trace of the sutured bulb. This condition, together with an extensive œdema of upper lid, gives an unusual aspect to these cases, unlike what is seen in any other operation upon the eye.

Unattended by any kind of discharge, pain or elevation of temperature, that would liken this appearance to an aggravated form of purulent ophthalmia in infants, I am disposed to regard the occurrence as peculiarly characteristic of the operation of exenteration; so much so that were I in presence of an œdematous upper lid, beneath which projected a conjunctival intumescence of considerable size, constricted, as it were strangled, at the palpebral fissure, without reactionary process and without discharge, I should feel no hesitancy in declaring that the eye had been eviscerated.

This repeated occurrence of so exaggerated a chemosis arrests attention, and is suggestive of a perfect explanation, even demonstrative of the whole subject of conjunctival connections and actions.

Chemosis is not always the declaration of hyperæmia. In the instances before us the chemosis is a serous, not a vascular, infiltration of the conjunctiva; consequently is void of inflammatory heat, of pain, or of the purulent or muco-purulent products of inflammation; it is a simple infiltration of serosity beneath the loose, serous, cellular tissue of the ocular conjunctiva, the aponeurotic arrangements of whose retrotarsal folds retain the hypersecretion within the anatomical limitations of this part of the orbit, free to move extraorbitally to an almost unlimited extent, but checked in any retrogressive tendency towards the orbital cavity by the firm orbital fascia in this region.

In such an unsightly turgescence there is, then, no indication of alarm, no threatening of danger.

But why should this excessive chemotic œdema occur after exenteration? is the question proposed by those who witnessed this phenomenon twice thus regularly produced—a phenomenon differing essentially from the partial and asymmetrical swelling of the conjunctiva from other surgical interferences upon the globe.

This question seems of interest sufficient to call for the reply that suggests itself at this juncture. When we recollect the importance of shape and dimensions to the eye as a dioptrical apparatus, where the slightest deviation, even of a fraction of a line, must of necessity vary its optical focus, one will fully appreciate the axomatic truth that *the eyeball never changes its form.* For the maintenance of this physiological condition a normal tension of the eyeball is recognized, and an equable pressure in its vicinage, and throughout the whole orbit is of paramount importance ; but, when this pressure is suddenly and greatly disturbed, indeed, wholly abolished by emptying completely the entire ball ; the great change that immediately ensues in the periocular circulation explains the passive effusion which commences at once, which, independent of all reactionary influences of an inflammatory nature, finds its readiest vent beneath the serous cellular tissue of the preorbital region. This sudden abolition of all ocular tension, the obvious result of gutting the eyeball, produces, mechanically, a greater filling of all the orbital vessels in vacuo ; and this leads, perhaps, to the chemosis that so rapidly ensues.

Whatever be the proper explanation of this occurrence, however, it certainly is the most remarkable feature as a sequel to this operation. Nor does it rapidly disappear, since in my first case it took two weeks to subside ; and in the second case, now under consideration, being the third week of the operation, it has by no means vanished. I do not, therefore, understand how cures have been reported to have occurred within two or three days.

Another point is the hemorrhage that persists for awhile after evisceration is completed ; welling up from the empty sclerotic to an extent far beyond what I could have supposed probable, from the severance of such inconspicuous vessels as the central artery of retina and ciliaries. Yet, here again we must find an explanation in the anatomical peculiarities of the part. These vessels, however small they be, perforate an inextensible fibrous capsule, and, while imprisoned within their fibrous attachments to the sclerotic, are held patent and unable to retract. Trifling as this circumstance may seem, when applied to such minute vessels, yet in other situations in the body we know it to be often of great import if not controlled by pressure, and even by the application of ice, to both of which we had recourse on these occasions, to avoid a loss of blood out of all proportion to the simple nature of the operation.

Again, another question connected with this procedure is, What becomes ultimately of the emptied sclera? Will it really constitute the prominent and permanent support for prothesis, which is claimed for it? Or does it collapse, and,, through shrinkage, become atrophied? These are questions that remain to be determined in the future. So far as my personal experience extends, which is at present six weeks since operating upon Case 1, I have discovered that a globular mass remains, exhibiting a healthy non-vascular sclerotica of remarkable firmness, that rolls under pressure like the ball itself, turned by its muscles as each is called into action, strikingly resembling the bulb in all its entirety.

It is possible that the sclerotica, still nourished by its proper vessels, pours out exudates that subsequentiy become, through fibrillation, an organized body of fibrous structure, but little smaller than the normal globe, that long will exist as a firm, well-nourished stump, sustaining the lids in proper relation to the tear passages since we have ascertained that this secretion reac..es the puncta safely, and that none overflows the cheek in the case referred to.

In the gunshot injury above detailed, as no shot was detected, we see that phthisis bulbi resulted from simply a glance shot that incised the cornea, and produced destruction of the eye by concussion, lodging neither within the organ itself nor within the orbit; but, falling short of this, should a shot become buried in the orbital cushion of fat, harm would not necessarily result. Inflammatory processes of the orbit are not of common occurrence. Sympathia never originates but from ciliary or optic sources. We see foreign bodies of extraordinary nature retained indefinitely in the vicinage of the bulbus oculi, encapsulated in the fat cushion, without giving pain to the subject, who remains even unconscious of their presence.

We could rehearse many instances of this kind, but will recall only two that are memorably known to all oculists:

The first is Clarke's case, recounted by Carter, of Stroud, in which piece of a hat-peg of cast-iron, "measuring three inches and three-tenths in length, and weighing twenty-five scruples," was extracted from the orbit of an old man of seventy-three years of age, after a period of impaction of not less than ten, and probably even twenty days—the man recovering without a bad symptom.

The second is the Nélaton and Desmarres's yet more famous case, in which the former surgeon removed from the orbit the broken-off ivory handle of an umbrella that had lain embedded therein for three years unknown to the young man himself, and to the celebrated oculist Desmarres, who failed to discover any foreign body at the time of the accident, though the ivory handle measured "one inch and five-eighths in length, and half of an inch in thickness." This patient also left the hospital with "vision improved, and with the fistula nearly healed."

A small shot that has impinged upon, or that has even traversed the eyeball, may therefore safely remain embedded in the deeper parts of the orbit with little trouble; but, should symptoms of *sympathia* arise, this circumstance would in nowise interdict the operation of exenteration.

These, then, are some points of interest suggested by this novel operation of exenteration or eviscerating the eye, that have induced me to bring before your notice a modified surgical procedure in ophthalmology but little known as yet even to specialists.—*Medical News.*

## SYPHILIS OF THE LUNGS.

In the *New York Medical Journal* (August 1st, 1885) Dr. William H. Porter contributes a paper—"Phthisis and Pneumonia in their Relation to Syphilis." His observations are founded upon a study of one hundred cases in which these affections were associated, and we draw a resumé of them worthy of the careful attention of our readers.

He defines pulmonary syphilis as a condition of the lungs in which there is a progressive thickening of the walls of the vesicles; this change is often associated with inflammatory deposits, gummy formations, which, degenerated into cheesy masses, become encapsuled or liquefy, and give rise to cavities.

The first necropsy, in connection with a typical clinical history, was made in 1878, and in this instance there was no question of the existence of acquired syphilis, and the exemption from inherited phthisis was equally positive. Since that time a number of cases have been noted.

Of the one hundred patients chosen as the basis of Dr. Porter's paper fifty-two were males and forty-eight females, which he says does not represent the relative frequency among patients at large, for the whole number treated showed it to be more frequent among females:

"The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant muco-purulent expectoration. The sputum is either white and frothy or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. Early hæmorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. Pleuritic pains are common, and there is often great weakness, while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night-sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night. Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a nephritic lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

"Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

"The physical signs are peculiar and diagnostic; the respiratory act is labored and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

"Percussion gives varying degrees of dullness, which is most marked at the apex, but diminishes toward the base. The percussion-note is dull and of "wooden quality," and localized areas of dullness are found. Owing to the fact that small cavities have thin walls and contain considerable air, the dullness is not so great as would be expected, but, compared with a sound chest, it is decided.

"Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged and harsh, especially the former, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex. When the amphoric whisper is absent the presence of a cavity is eliminated. As a rule, crepitant and sub-crepitant râles are absent, thus eliminating chronic bronchitis. It is differentiated from asthma by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa*. There is no other disease in which this localised tenderness in œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis where the diagnosis was confirmed by the necropsy and its almost universal presence in cases of syphilis, it may be regarded as pathognomonic of a specific taint. In addition to this, it is always found to yield when the patient is under an anti-syphilitic *régime*.

"The diagnosis is based upon five principal signs and symptoms:

"1. The abundant expectoration without any signs of softening of the pulmonary tissue.

"2. The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

"3. Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

"4. The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

"5. The ready response to treatment is another element in the diagnosis.

"The prognosis depends upon the early recognition and treatment. Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

"In treating this affection the liver should first be freely acted upon by cathartic doses of calomel or podophyllin, which in some cases should be frequently repeated. Experience has shown that the mixed treatment yielded better results than when mercury or iodide of potassium alone was used. The combination most successful is one-sixteenth of a grain of the biniodide of mercury, from five to ten grains of the iodide of ammonium, and ten to twenty grains of the iodide of potassium in a dtachm of the compound tincture of gentian, three times a day after meals.

"Great reliance is placed on the ammonium salt, not perhaps on account of its intrinsic action in syphilis, but from the action which it has in rendering the two others more soluble, capable of earsier absorption and assimilation, and in increasing their solvent action upon these newly formed gummatous elements—in fact, its action may be compared to that of trituration on calomel.

"The conclusions may be summed up as follows:

"1. *Ætiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maxinum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

"2. *Pathology.*—Is most frequent at the apex; usually involves both lungs; is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

"3. *Symptoms.*—These are peculiar and diagnostic.

"4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness and the absence of an increased bodily temperature.

"5. *Prognosis.*—This depends upon an early recognition of the trouble.

"6. *Treatment.*—It must be anti-syphilitic to be of any avail. Many cases are unaffected by iodide of potassium alone, unless under enormous doses, but a rapid improvement follows upon the use of the biniodide of mercury, iodide of ammonium and the iodide of potassium."

The foregoing observations and similar studies by the same author (*Boston Medical and Surgical Journal*, April 23, 1885), deserve at this time careful study, for we believe that much of the lung disease which has passed for phthisis among syphilitic negroes, probably accords with Dr. Porter's description of syphilitic pneumonia more than phthisis. Here is a wide field for post-mortem examination which could be cultivated to great advantage by those physicians whose practice is largely among the negroes. Persistent effort would probably, in time, overcome their superstitious opposition to post-mortem examinations. At any rate, in the public hospitals of the South there must be sufficient material for the purpose.*

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## A SMALL WAVE OF THERAPEUTICAL HETERODOXY AMONG NEW YORK DOCTORS ON THE ANTISYPHILITIC REMEDIES.

In a discussion which took place on a paper read by Dr. F. R. Sturgis on Syphilis (*New York Medical Journal,* August 1st) some not very novel ideas, but ideas decidedly at variance with the present received practice of the use of mercury and iodide of potassium in syphilis were advanced. Dr. George H. Fox did not consider that syphilis was the frightful disease that the text-books would have us believe. He also thought the result of its treatment by mercury much overrated, and considered that this drug could be dispensed with without involving any risk to the patient. To determine the value of a remedy it was necessary to be able to study the natural history of a disease.

The average case of syphilis is benignant in character, and, given the average good health previous to the inception of the disease, did not believe that it would produce the ravages attributed to it. He did not care to say that mercury was useless in these cases, but thought it was better to rely upon tonic and hygienic measures than upon the drug alone, and he felt convinced that many patients recovered under this mode of treatment. He also thought that when mercury was used the dose should be much smaller than the one usually employed, considering that half a grain of blue mass would accomplish all that could be gained with one or two grains. The treatment of syphilis should no more be based upon a routine plan than the treatment of scarlet fever, and, just as there were some cases of the latter affection so mild as to need no treatment, so there were cases of syphilis that could fall under the same category. It was absurd, in his opinion, to continue mercurial treatment for two or three years in cases that were really so mild that, if left to themselves, they would end in recovery; but in deference to custom he usually did continue the treatment for six months after the symptoms had disappeared. His opinion was, however, that in the severer forms it was better simply to treat the symptoms as they arose. In the stage of effervescence iodide of potassium had no curative value and should never be continued for a long period. He considered that great harm could be done by giving too much of this drug, as several physicians had reported cases where the symptoms of iodism were substituted for syphilis. Where no good results were noted from the use of this remedy harm was almost sure to follow, and then it would have been much better had the money thus thrown away been expended in beefsteak and country air.

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*Note.—In addition to the foregoing, I would like to state that, from October 1st, 1884, to May 15, 1885, I made forty-two necropsies. In eleven of the cases, or 26.19 per cent., there was, in my opinion, a syphilitic condition of the lung—either gummata or cavities. Each was put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven were also put to the double test for the bacilli of tuberculosis and those of syphilis, and in all of them the latter were found in abundance, but none of the former. One case of the forty-two, or 2.35 per cent., had been diagnosticated as tuberculosis. The sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy.

Dr. D. B. St. J. Roosa remarked that as his chief interest lay rather in general medicine and surgery than in the specialty into which the circumstances of his life had directed him, he preferred speaking on the subject from that standpoint. He had been particularly interested in the discussion because it indicated that the therapeutics of syphilis was approaching a standard of correctness which was hardly comparable with the iron-clad notions which formerly obtained regarding the efficacy of drugs in the treatment of this affection. If it should ever be his misfortune to be inoculated with this disease, he would prefer to put himself into the hands of a good cook and housekeeper, with country air and plenty of exercise, to trusting to the empirical remedies applied by many physicians whom we could designate. The homœopathic theory, which considered disease as a beast, to be hunted out by some other beast, was not even true in syphilis; neither was it true, on the other hand, that this affection could be successfully combated without recourse to drugs of any kind, for was it not apparent to everyone what remarkable results were obtained by the use of iodide of potassium in the late ulcerations of the fauces and the throat? In ophthalmology, however, if patients were in an infirmary, where they could have good and nutritious diet and proper bathing facilities, drugs could be dispensed with, but even then we should not forget that the character of syphilis differed in different individuals.

We have selected the opinions, it is true, of those in the discussion as found in our valuable contemporary, who were rather unorthodox in their idea of the therapeutics of syphilis, that those practitioners who have by long experience verified the use of iodide of potassium and mercury in the cure of syphilis, and even as a therapeutical verification in some cases, may watch the drift of the current.

## WARBURG'S TINCTURE—THE SEASON TO TEST ITS VIRTUES.

In the discussion of the treatment of hemorrhagic malarial fever, which recently took place in New Orleans, there seemed to be a widespread belief among those familiar with the disease that quinine, as ordinarily given, is of little value. It is a very curious evidence of conservatism that Warburg's tincture, which has been used with such extraordinary results in India in the treatment of malarial fevers of a malignant type, cannot obtain a fair trial in our Southern States. The testimony to its value has been very extraordinary, and we notice in the twenty-seventh issue of the Report of the China Imperial Maritime Customs, just received, that Dr. B. S. Ringer, of Amoy, reports a case of intermittent fever contracted at Hong-Kong, in which quinine and salicylate of sodium had been repeatedly tried without effect, and arsenic and aloes had also been essayed in vain, but in which the disease rapidly yielded to the administration of 2 drachms of the Warburg's tincture three times a day. The case had continued for many weeks, but under the influence of the Warburg's tincture the temperature fell three degrees in the course of a few days, and on the tenth day after use a normal temperature was recorded for the first time for thirty-two days. It will be noted that the method in which Dr. Ringer employed the Warburg's tincture is different from that commonly practised. As this tincture contains quinine, it has been alleged that the remedy is only quinine concealed in a farrago of inert substances for the purposes of mystification. The importance of the subject justifies us in noting at length the words of Dr. B. S. Ringer in answer to this:

"I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the base of mountain ranges in India, on the Coromandel coast, in the pestilential highlands of the northern division of the Madras Presidency, in the malarial rivers of China, and in men brought to this (Netley) hospital from the swamps of the Gold Coast, and I affirm that I have never seen quinine when given alone act in the manner characteristic of this tincture; and although I yield to no one in my high opinion of the inestimable value of quinine, I have never seen a single dose of it given alone, to the extent of 9½ grains, suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence, while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about both results."

Dr. Ringer states that the tincture has usually been administered by him in the following manner:

"One-half ounce (half of a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterward, particularly in hot climates, profuse but seldom exhausting perspiration is produced. This has a strong aromatic odor, which I have often detected about the patient and his room the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache, in a word, complete deferescence, and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required."

Owing to the complexity of the original formula of Warburg's tincture, and the expensiveness and apparent inertness of certain of the ingredients, there is a strong temptation on the part of manufacturers to depart from said formula, but it must be remembered that we do not know at all to which of its ingredients this polypharmaceutical owes its virtue. It is, therefore, entirely possible in any case that a drug left out is the important one. No practitioner has a right to consider that he has made a fair trial of the Warburg's tincture unless it has been prepared by a pharmaceutist of known reputation, whose word has been given that he has in all respects conformed to the original instructions of Dr. Warburg.—*Therapeutical Gazette.*

## THE TREATMENT OF CEREBRAL HEMORRHAGE AND EMBOLISM BY THE INTERNAL USE OF CARBONATE OF AMMONIA.

At a recent meeting of the New York State Medical Association Dr. R. C. Van Wyck read a paper on the above subject, and detailed two cases illustrative of the value of this mode of treatment, the advantages of which he states are as follows:

1. As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation, and inducing perspiration—relieving in this way intracranial pressure.
2. By its direct action in dissolving the clots. The only agents which possess this property are the alkalies, and the most efficient of these is ammonia.
3. In the œdema and congestion of the lungs, so often seen in apoplexy, the use of this salt will frequently relieve the condition, partly by its stimulating action on the terminal capillaries, and also by its expectorant action on the bronchial mucous membrane.
4. By keeping up the alkalinity of the blood, and preventing further thrombosis.

Remarking that he did not claim for this drug a specific action, but only that it acted as an efficient auxiliary to the use of other measures, he said that in the treatment of cerebral hemorrhage the following would seem to be the proper order of procedure:

1. To endeavor to control prodromal symptoms, which threaten an attack of apoplexy, by prompt venesection and catharsis.

2. To relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably aconite.

3. To remove the exudation, relieve cerebral anæmia and pulmonary congestion, and prevent further thrombosis by the free use of carbonate of ammonia.

4. To support the system by nourishing, yet unstimulating diet, and by the use of remedies which specially nourish the brain-tissue, such as lactophosphate of lime, cod-liver oil, and the phosphate of zinc.

5. To increase the muscular development by massage, friction, electricity and strychnine.

The carbonate of ammonia should never be given in cerebral hemorrhage, he said, until the period of reaction has fully set in—say from ten days to two weeks. It should then be given continuously for at least a month, or until the retrograde changes in the clot are accomplished. In thrombosis and embolism, if the diagnosis can be clearly made, it should be given at once. The dose employed by him is 5 grains three or four times a day, and it is given in half an ounce of liquor ammoniæ acetatis. He said there is one class of cases in which the carbonate of ammonia had not acted well in his hands, viz: cases of cerebral hemorrhage associated with interstitial nephritis and hepatitis. Here he had good results from the use of sodium phosphate, in doses of from 20 to 30 grains, given in the infusion of dandelion, three times a day after meals, and of bichloride of mercury in doses of 1-24 of a grain, given (sometimes combined in a pill with digitalis and squill) before meals. In conclusion, Dr. Van Wyck read a letter which he had received from Professor Roberts Bartholow, in regard to the utility of the carbonate of ammonia plan of treatment. There is one class of cases, Dr. Bartholow wrote, in which he had seen most admirable results, viz: the cases of thrombosis of cerebral vessels due to chronic arteritis. Embolism of the brain, secondary to lesions of the cardiac valves, is another condition in which the same treatment is very effective.—*Therapeutic Gazette.*

# EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

Since our last statement of the prospects and condition of the Committee of the International Congress, nearly all of the Journals have expressed their views. So far, in addition to the *Journal of the American Medical Association*, the *Mississippi Valley Medical Monthly*, the *Detroit Lancet* and the *Nashville Journal of Medicine and Surgery* have expressed themselves in favor of the New Orleans movement more or less modified.

We trust that, whether we have an International Congress in the United States or not, the dilemma now puzzling the wisest men in the American Medical Association may be overcome, and that such of the huge meetings of the Association. It is evident now that, safeguards may be devised as will give the smallest scope for medical politics in the future. It is almost marvellous that such a threatening condition of things was never before reached when one analyzes a few in the future, the opportunities for medical politics must be reduced to a minimum, and every effort made to make the production of scientific work the chief object of the Association and a test for preferment. We do not sympathize at all with the suggestion that a new national society should be formed. Secession is a costly business—it arrays good friends against each other, consumes valuable substance, and is so liable to end at last in striking colors you have pride in, and in grounding your arms to an enemy having the only advantage over you in being more numerous and better fed. For these and other reasons we prefer to encourage every means which will make the American Medical Association what the British Medical Association is, and we believe that the surest means to this end is to build up the Journal of the Association; for no one can doubt, although of late some of the editorials on the Congress have been acrimonious, that the editor has all the qualities of an earnest heart.

The *Medical News* will publish a full list of gentlemen who have declined to take part in the reorganized Committee of the Congress, and with this inventory it is possible that we may be better able to forecast the chances of a good working body under the new arrangement. The prognosis, as judged by the opinion of a large majority of the medical journals in this country and England, is bad, and the friends of the New Committee are daily widening the breach.

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CHEERFULLY CORRECTED.—We ask our readers to turn to their July JOURNAL and on page 4 *seventh* line from the top in place of "is a wound of the leg," read "is the uncle of the lad," and also to correct the name of the author of the article in question. for, instead of our venerable friend Dr. John H. Hill having written it, it is from the pen of Dr. Thomas Hill, of Goldsborough.

# REVIEWS AND BOOK NOTICES.

DRUGS AND MEDICINES OF NORTH AMERICA. A Quarterly Devoted to the Medicinal Plants of North America; their Constituents, Products and Sophistications. By J. U. LLOYD and C. G. LLOYD. Cincinnati: J. U. & C. G. Lloyd, 180 Elm St. $1.00 a year.

KÖHLER'S MEDIZINAL–PFLANZEN in naturgetreuen Abbildungen mit Kurtz Erklärendem Texte. Gera-Untermhaus, 1885. Verlag von Fr. Eugen Köhler.

This is the sixth number of Lloyd's "Drugs and Medicines," which we have noticed before as having been so auspiciously begun. This number concludes the very elaborate article on *Hydrastis Canadensis.* It is the most exhaustive botanical and chemical treatment of this plant in any language. It closes with bibliographical references to this plant covering three large pages and more, and extending from 1793 to 1884.

The two other plants considered are *Trollius laxus* and *Coptis trifolia,* Gold thread. The latter is amply and effectually illustrated as to the whole and dissected plant, and a map to show its geographical distribution. Coptis, like many other plants once popular, has long fallen into neglect. In 1835, though, we are informed that the drug was worth $2.00 a pound, and now has scarcely an established value. This faithful work is still moving along in the Ranunculaceæ, and if all the Natural Orders are dwelt upon as minutely it will be eventually an enormous work. It is very cheap, and for all this it is beautifully printed and correctly illustrated, and will scarcely leave anything more to be said about medicinal plants during this century.

Köhler's Atlas of Medicinal Plants is a handsome quarto, illustrated with colored plates, accurate in drawing, in sober and natural colors. The present installment of numbers illustrate *Verbascum plomoides, L., (mullein); Sambucus migra, L., (elder); Veleriana officinalis, L.; Artemisia Cui, Berg; Locopodium clavatum, L.; Mallotus philipiensis; Vitis vinifera. L.; Mellilotus officinalis; Fagus Sylvatica, L.; Pirus malus, L.; Prunus Cerasus, L.;*

*Cydonia vulgaris, Pers.; Papaver Somniferum, L.; Salira officinalis, L.; Thymus Serpyllum, L.; Symphytum officidale, L.; Lactuca Viroea, L.; Rubus Idaeus, L.; Althea officinalis, L.; Larix de cidua, Miller; Juniperus Communis, L.; Abies alba, Miller; Beta vulgaris, L., var. Rapa; Populus nigra, L.* This is a work of great value, and is published at the very low price of 1 mark, to be procured through the mails from the publishers with as little trouble as any book can be published in New York.

Notwithstanding all these helps to medical botany, it is not a popular study, and is pursued chiefly by a few eccentric doctors, mostly eclectics.

A Manual of Dermatology. By A. R. Robinson, M.B., L.R., C. & S. Edin. With 88 Illustrations. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. Pp. 647.

Dr. Robinson says in his preface that this volume is the basis of a future much larger, more pretentious and more original work. He has succeeded admirably in presenting the subject according to the best teaching of the day, and every page gives evidence of the extensive work of the author in the department of histology. Many subjects excluded from other works on diseases of the skin have been introduced by Dr. Robinson with propriety, and we trust that in his promised larger work he will elaborate still more upon topics which are now left to general descriptions. Burns, small-pox, cow-pox, syphilis, and many other topics need the special work of the dermatologist, and should not be so exclusively left to surgical and medical treatises.

Very few of the illustrations are inserted as aids to diagnosis, and two or three of them, as *rupia syphilitica*, p. 161, and *syphilitic dactylitis*, p. 183, are very coarse and fall below the stock pictures we are so familiar with. The descriptive text is satisfactory, and as a book of reference it is trustworthy and helpful, notwithstanding the fact that there is not a long array of formulæ. The absence of the latter is not at all to be regretted, for it is well known that some dermatologists are not given to the publication of their best formulæ, but appear to reserve them for the patients who are attracted to their offices by the impression their volumes make upon the country doctor. While the treatment of skin-diseases is largely a matter of diagnosis, it is much more dependent upon the proper application of nicely proportioned prescriptions, and these compounds having been ascertained by the specialist by large experience, he is not very free to divulge them. After all, though, it is general principles which should be inculcated, and this Dr. Robinson's book will surely do if it is diligently read.

POISONS—THEIR EFFECTS AND DETECTION. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By ALEXANDER WYNTER BLYTH, M.R.C.S., F.C.S. With Tables and Illustrations. Vol. I. New York: William Wood & Co., 56 & 58 La Fayette Place. 1885.

This volume opens with a most intensely interesting chapter on the famous poisoning and poisoners, historically considered, going back into the mythical regions, between the 14th and 16th centuries. It is a story of infamy and devilishness, which, compared with the vilest crimes a prurient public is fed with every morning in these days which we are accustomed to call degenerate, would dwindle into trifles. No less interesting, and rather more relevant to the general subject, is the chapter on the growth and development of the modern methods of chemically detecting poisons. It was not until in the 18th century that a test for arsenic began to be developed, and it was not until 1836 that Marsh published his memoir on a "New Process of Separating Small Quantities of Arsenic from Substances with which it is Mixed"—an era in toxicology. Orfila's great work had appeared twenty years before this epochal publication by Marsh, and was substantially the foundation of toxicology as a science. From this early day in the 19th century chemistry developed into an exacter science, but it has developed so slowly that the author in enumerating works on toxicology gives less than seventy.* Coming close upon the issue of the second edition of Wormley's masterly and elegant "Micro-Chemistry of Poisons," the reviewer cannot help draw a comparison between the two. As the work of Blyth is not yet complete it would not be fair to venture an assertion as to the entire work, but we cannot resist saying that we have not examined a work in many years that gives us so much satisfaction as this one does, and to add, further, that it is an important addition to Wood's Library.

THE TECHNOLOGY OF BACTERIA INVESTIGATION. Explicit Directions for the Study of Bacteria, their Culture, Staining, Mounting, etc., According to Methods Employed by the most Eminent Investigators. By CHARLES S. DALLEY, M.D. Boston: S. E. Cassino & Co. 1885. Price $2.00.

The downfall of Ferran's pretensions to a discovery of the vastest importance, should point a moral for a book like this. Whereas, Dr. Ferran entered upon a subject requiring truthfulness, training in technical methods, a knowledge of the botany of spore-bearing plants, facilities for pathological demonstrations, a knowledge of work done by others, a dispossession of all preconceived theories; and lastly, a thoroughly equipped laboratory coming up to the requirements of the day, he has failed in every essential particular. It takes accurate technical knowledge and manipulation to fit one to undertake studies in the microscopic bodies (so enthusiastically) spoken and written about as "germs," meaning, of course, "disease germs," and it is by mastering volumes like the one before us that such preparation will be greatly aided.

This little work is handsomely printed, reviews all the methods in use for the study of bacteria, and contains a copious bibliography in each branch of the subject. We hope that very few of our best young men will forsake clinical studies to become fungologists, but to those who do we recommend to them Dr. Dalley's very handsome contribution.

ELEMENTS OF MODERN MEDICINE; Including Principles of Pathology and Therapeutics, with many Useful Memoranda and Valuble Tables of Reference. By R. FRENCH STONE, M.D. New York: D. Appleton & Co., 1, 3 & 5 Bond St. 1885.

This is a neatly printed pocket volume of medical practice, bound in limp morocco, with flap, and two pockets for prescription papers and fever charts. The little volume is a judicious compilation, well arranged, and printed in such small type that it is, in fact, a large volume, condensed into a small compass, fulfilling more nearly the place of a complete "manual" than many a padded book claiming to be a manual. The fever charts are condensed and convenient, and the therapeutic table, if largely drawn from the list of a wholesale pharmacist, is none the less an array of elegant and well-tried combinations, such as the young doctor would probably not devise as well in a life-time of practice.

# NOTES.

A GALL-STONE weighing 394 grains was removed (post-mortem) from a woman. It was 3½ inches long. This case was reported (*Boston Medical and Surgical Journal*) by Dr. J. H. Musser, of Philadelphia, for Dr. Livingstone, of Columbia, Pennsylvania.

THE NEW ORLEANS FEVER COMMISSION.—The Louisiana State Board of Health have appointed the following physicians ("all in long practice") to investigate and determine the nature of all cases of fever reported as suspicious: Dr. Charles Turpin, Dr. G. Devron, Dr. J. P. Davidson, Dr. F. Loeher and Dr. C. J. Bickham.

THERE is a case of aphasia described in the *British Medical Journal*, June 10, in which the chief lesion was seated in the supra-marginal and angular gyri, Broca's speech centre being unaffected. In this case the distribution of brain-softening pointed to the plugging of the distal portions of the Sylvian artery as the cause of the lesion, but the proximal portion of the artery was pervious.

MEMOIR OF CHARLES HILTON FAGGE, M.D.—Messrs. P. Blakiston, Son & Co., have issued a memoir of this distinguished English physician. He possessed very versatile talents, and was a very hard worker in all the departments of medicine. His principal work was the translation of Hebra's Diseases of the Skin, published in five volumes by the New Sydenham Society, but he contributed many original papers in therapeutics, and in skin diseases, and other subjects.

QUININE IN HÆMORRHAGIC MALARIAL FEVER.—The *New Orleans Medical and Surgical Journal* (August) denies the sweeping assertion copied into many of our exchanges, that the "New Orleans physicians claim that quinine has no beneficial action in hæmorrhagic malaria, but increases congestion of the kidneys and produces greater hæmorrhage; but that the free use of calomel gives the best results in this form of malarial poisoning." "We do not know," says the editor of the *New Orleans Medical and Surgical Journal*, "where our valued exchange got its information; we do know, however, that some of our best physicians believe in giving, and do give, quinine freely in this disease, considering it the sheet-anchor in its treatment." The Board of Health will accept their decision as final, and will act accordingly.

AMBLYOPIA FROM ALCOHOL AND TOBACCO.—Galezowski, in about 18,000 eye patients saw 151 cases of amblyopia from the use of tobacco and alcohol, the majority suffering from both drugs, and only 21 from mere tobacco amblyopia—*Detroit Lancet.* [Without having actual statistics to bear out the assertion, we believe we are safe in saying that tobacco amblyopia, especially among snuff-dipping women, is far greater than this.]

APPARATUS AND MATERIAL NECESSARY FOR CUISINE OF SICK-ROOM.—Dr. William Roberts delivered an address "On Feeding the Sick," before the British Medical Association, July 29th, and it appeared in the *Medical Record* August 1st, but by this rapid transit the address has lost none of its excellence. We have taken the liberty of quoting the following:

"If I were asked to enumerate the ingredients and apparatus which are necessary for the cuisine of the sick-room and nursery, I think I would do so very briefly. In addition to the resources of the domestic kitchen and larder, the sick-room kitchen should contain a supply of the following flours: oat, maize, malt and lentil flours, in a finely pulverized condition and freed from bran. It should be provided with a solution of sodium bicarbonate of known strength. This would be of use to add to milk when necessary, and to assist in the preparation of peptonized articles of food. Next to these would come a reliable pancreatic extract, and a preparation of pepsin or rennet for the production of whey. The associated apparatus should include a thermometer, wherewith the nurse could, when desirable, heat up cold-made meat infusions to a proper temperature, and regulate the warmth required in the predigestion of food. A double-cased saucepan would form an indispensable item; this makes an abominable hot-water bath for the preparation of beef-tea and fortified gruels.* A pair of scales, glass measures, and a mincing machine would complete the list. Finally, there should be, for the service of the nurse, a card or sheet containing plain directions for the preparation of the various kinds of liquid food."

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*By *fortified gruels* he means gruel prepared with either of the flours mentioned above, to which is added malt extract to liquefy the otherwise too pasty product. By a small admixture of Trommer's malt or Fairchild's pancreatic extract, as much as 20 per cent. of starch can be added and the gruel remain perfectly fluid.

## ANTI-VACCINATION CONGRESS AT CHARLEROI, IN BELGIUM.

The above caption sounds very grand, but we are informed that enough half-informed and purblind people could be found to make up a "Congress." A *New York Herald* representative detailed the "vaccination" of Ferran. The *London Times* says a very animated discussion took place on the compulsory vaccination of immigrants into the United States. Great effect was produced by the exhibition of photographs forwarded by Dr. Dwight Stowe, of Boston, showing the terrible injuries thus inflicted on English immigrants. In one instance five immigrants arriving in the same ship, and vaccinated from the same lymph, were afterwards affected with most loathsome diseases of a syphylitic character, which totally ruined their health and prospects of life. Much other startling news was devoured by the "Congress," but when a resolution was introduced by an Englishman asking European governments to make vaccination penal on account of the disastrous effects of the practice, it was negatived by a large majority. All this senseless demonstration is the result of compulsory vaccination, and by lugging in Ferranisation to heighten the impression, they have not chosen a winning card. Perhaps it is the best company the new inoculation could get into. Ferranisation will die out when it is better known, and so will anti-vaccination.

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## HYDRASTIS CANADENSIS.

The rhizome, as is well known, contains two alkaloids, berberine and hydrastine. The former it possesses in common with several other plants, as coptis, xanthorrhiza, calumba, menispermum, berberis, etc., while the latter, as far as known, is peculiar to the plant. Of berberine the drug contains an average about ½ per cent. This alkaloid was formerly regarded as the most important medicinal constituent of the drug, but the researches of Professors Bartholow and Suttler appear to prove that it has the value only of a bitter tonic, while it is to the white alkaloid, hydrastine, that the peculiar medicinal virtues of the plant must be attributed. Hydrastine has the chemical formula $C\,H^{23}NO^{6}$, is crystalline, white, or colorless, insoluble in water, soluble in hot alcohol, but not in cold, and combines with acids to form salts which are not crystallizable, but are soluble in water. It is used in the form of the hydrochlorate, which is now obtainable in the market in a nearly pure form. The drug yields of this alkaloid on the average only about 1-5 per cent. Its dose is from 1-3 to 1-4 grain.

In some of its physiological effects it closely resembles strychnine, impressing the nerve centers in the same way, and in overdoses producing in a similar way tetanic convulsions and death. Strychnine acts with greater intensity, however, while the effects of hydrastine are wider in extent, affecting not only the nerve centers, but peripheral nerves and muscles.

It seems certain, therefore, that the well-known beneficial effects of hydrastis in catarrhal conditions of the gastro-intestinal and other mucuous membranes are not due solely to a tonic influence, combined with a power to prevent or retard fermentive changes, as has been supposed, but to the influence exerted by the hydrastine through the nerves upon the secreting surfaces of the mucuous membranes. These researches raise the drug to a position of importance in the materia medica which it has not heretofore occupied.

E. S. B. *in the Pharmacist.*

## LETTER FROM SIR JAMES PAGET ON THE ORGANIZATION OF THE INTERNATIONAL MEDICAL CONGRESS.

[The accompanying letter has been received in this city, and is published for the information of the American profession, as it gives an authoritative statement concerning the manner of organizing preceding congresses, as well as the general understanding at Copenhagen in reference to the organization of the Washington Congress.

Sir James Paget, as is well known, is a member of the present

Executive Committee of the Congress, and the President of the London Congress, and the immediate predecessor of the late Prof. Panum in the Presidency of the Copenhagen Congress, and he therefore speaks with the highest authority concerning all matters which pertain to the rules and customs of the Congress.—EDITOR *Medical News.*

1 HAREWOOD PLACE, HANOVER SQUARE,
LONDON, July 22, 1885.

*Dear Dr. Hays:*—I am very sorry to learn from some of your journals, as well as from letters which I have received, that there are serious differences of opinion among the members of our profession in your country as to the arrangements to be made for the International Medical Congress which it is proposed to hold in Washington in 1887. The deep interest which I feel in the Congress makes me venture to write to you in the hope of helping towards a right decision of some of the questions in dispute; and chiefly, by stating what I believe to have been the custom at former meetings.

I believe that a principal question relates to the authority, if any, which was given by the Congress at Copenhagen in 1884 to the gentlemen who conveyed the invitation that the next meeting should be held in the United States of America.

I believe that it has never been considered that the members at one Congress should give any formal authority for any part of the organization of the next. At each meeting some place has been named at which it was deemed desirable that the next should be held; and at the same time, or soon afterwards, some persons of high repute in that place have been asked to take such steps as they might deem necessary or most likely to promote a successful meeting.

Thus, after the Congress at Amsterdam, in 1879, the President, Prof. Donders, wrote, in the first instance, to Sir Joseph Lister and Sir William Bowman, and by them, and those whom they asked to act with them, the first and all the principal subsequent measures were adopted for the promotion of the meeting in London. Sir Risdon Bennett, the Chairman of the Executive Committee, communicated to Prof. Hanover and Prof. Panum, of Copenhagen, the desire that the next meeting might be in one of the chief cities of Scandinavia; and those gentlemen, and others acting with them, began and had the principal part in all the arrangements for the Congress in Copenhagen.

I fully believe that it was understood at Copenhagen that the same course would be pursued in the organization of the Congress to be held at Washington. I was at the General Meeting at which, after some discussion, the majority of the members present expressed the wish that the next Congress should be in the United States; and I have no doubt that it was expected that the distinguished American gentlemen there present would obtain the coöperation of the most eminent of their professional bretheren, and would, with them, make all the arrangements which they should deem best.

Certainly it was not supposed that the Congress would be regulated, with any degree of exclusivness, by the members of one medical association, however numerous; and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.

I am sorry, also, to feel sure that if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few. And in this opinion, as well as in all that I have written here, I have the concurrence of several of the most influential of the London Congress with whom, before this writing, I consulted.

Believe me, dear Dr. Hays,
Most truly yours,
James Paget, *in Medical News.*

# THE TREATMENT OF CHOLERA.

Prof. Da Costa, in a lecture on this subject at the Jefferson Medical College, expressed the following views:

*Prophylaxis.*—Since filth of all kinds leads to a rapid production of the germs, the locality should be rid of the same. The dejecta and cess-pools should be disinfected. Inspect the source of water supply, since the germs can obtain easy access to wells. Drink only filtered water. Speedy burial of the dead should be urged. No change in diet is necessary. Live as usual. Better avoid stimulants in the prophylactic treatment. Among the disinfectants to be used are corrosive sublimate, zinc, chloride, cupric sulphate, iron sulphate and permanganate of potassium.

*Internal Treatment.*—Must check the early diarrhœa if you desire to be successful, for, in most cases, if you stop this you put an end to the disease. For this purpose the most valuable remedies are sulphuric acid in combination with tr. opii deod., with aq. menth. pip. In India the acetate of lead, grs. iv., with pulv. opii, gr. j. at once with the diarrhœal outbreak, and continue every three hours until it checks the discharges. If the above cannot check the diarrhœa, use capsicum, gr. j. with opium and camphor.

*Second Stage.*—Here we have cramps, vomiting and purging. Now, stop the use of fluids; allow but a little ice in the mouth. This is a point of great importance. As little food as possible Stimulus in small amounts, but frequently repeated. Mustard to the epigastrium. Administer every hour or two:

℞. Tinct. capsici. gtt. ij.
Tinct. opii deod., gtt. x.
Aquæ camphoræ, f ʒ ij.
M.

If the stomach does not retain the opium, give it hypodermically; but, if possible, give it by mouth, since it appears to have a local effect. To relieve the cramps, use chloral subcutaneously, in large amounts. When reaction has set in, allow fluids to wash out the kidneys. If he has not reacted, and is not doing well under opiates, try calomel, especially in cases in which the secretions have not been arrested by opium. Give at first, gr. v. to gr. x., then order gr. ¼ every hour or so. When the pulse is sluggish, and the temperature below normal, use friction and a hot bath. In this the stage of collapse, stimulants will not be absorbed or they would be of utility, though brandy or whiskey might be tried hypodermatically.

Caffeine, gr. iss–gr. ij., hypod., stimulates the heart's action. If still the patient fails and the veins are swollen, etc., resort to blood-letting, but possibly the injection of fluids into the veins is better; often the results are marvellous. The thickened blood is made to circulate. Use for this purpose the following:

℞. Sodii chlor., ʒ j.
Sodii carb., ʒ iij.
Aquæ, Ovj.
M.

Get it up to 108° Fahrenheit and a specific gravity of 1.005.

Sig. Throw in a few ounces at a time, until 40 ounces have been injected. When the patient again flags, throw in a like amount.

The inhalation of oxygen has done no good.—*The College and Clinical Record, June 1st,* 1885.

## FERRÁN'S FIASCO.

It would be wrong to jump to the conclusion, from the utter collapse of Dr. Ferrán's vaunted procedure in the preventive inoculation of cholera, that inoculation may not yet be so carried out as to answer the purpose. But the tendency is a natural one to settle down into the stagnation of such a conclusion whenever a grand scheme of any sort is proved to be a bubble, and especially when, as in this instance, its promoter takes a position where he shows himself rather a seeker after pecuniary reward than a devotee of either science or humanity. It is of little consequence to the world when a person who has posed for a time as a great discoverer and a benefactor of the race drops to the level of a charlatan, except that the occurrence tends to create a disinclination on the part of competent and well-balanced men to enter upon a path which, whatever promise it might otherwise have seemed to hold out, has been in a certain sense defiled. To be sure, this feeling of aversion is always outgrown in time, but results that, but for its existence, would in all probability have been arrived at with rapidity, are postponed for many years, to the great detriment of progress.

If failure had been all that was to be chronicled of Dr. Ferrán's process, that in itself would not have brought him down to the station he now occupies in the eyes of the profession ; he would simply have been set down as one who had generalized from insufficient data—a proceeding not unheard of in men who have nevertheless continued to enjoy the respect of their fellow-laborers, and even done subsequent solid service to science. Nor would his reserve—to use no harsher term—as to the details of his laboratory work, if, indeed, he has done anything worthy of the name, have aroused any special distrust, provided it had gone before his bold announcements. He might have been as silent as the tomb, and sported his oak like a miser, so long as his project was in that part of the experimental stage which ought unquestionably to have been worked out to the last detail before inoculations of human beings were resorted to as the final test; and it could not reasonably have been objected that he was straying from the legitimate course. But, when he appeared, so to speak, vaunting a perfected process with one breath and smothering investigation with the next, the weakness of his position was all but demonstrated.

It was natural, too, that he should look forward to a pecuniary reward when he had satisfied the world of his success. And under such circumstances, beyond all question, the recompense would have been forthcoming, and it would have been a handsome one. Jenner not only accepted, but took means to obtain, a substantial recognition of his great services to mankind, and the fact has never dimmed the luster of his fame. His countrymen were glad and proud to afford him a tithe of the money that his discovery had saved, to say nothing of its other beneficent consequences, although the whole world gained by it as well as themselves. But Jenner worked patiently for years before he even announced his conclusions, and he countenanced no movement looking to a pecuniary recompense until all civilized communities had had the soundness of his doctrine and the utility of his practice demonstrated to them over and over again and on a large scale.

As matters stand, however, a practice abundantly shown to be well-nigh, if not altogether, useless, secrecy as to details—not for purposes of undisturbed study, but apparently only for mystification—and a hand held out after the manner of Artemus Ward's showman when he said to a would-be dead-head: "You can pay without going in, but you can't go in without paying"; all these features make the contrast sharp between Dr. Ferrán's case and that of any one of the world's few great discoverers. Let us hope that this very pointedness of the contrast may to a certain degree ro , his fiasco of the retarding influence it might otherwise have had on researches in the preventive inoculation of cholera.—*New York Medical Journal.*

## THE RETIREMENT OF DR. CHAZAL.

In their announcement of the session of the Medical College for 1885–'86 the faculty of that institution, in regard to the resignation of Prof. J. P. Chazal, M.D., from the Chair of Pathology, say: "The faculty feel much regret in having to announce the retirement of Prof. J. P. Chazal, M.D., from the Chair of Pathology, of practice of medicine and of clinical medicine, Prof. Chazal has been with them for the last eighteen years, struggling through the period of their great difficulties and depression. By his perseverance, energy and advice, he has done much to further the interest of the College, and by his erudition has contributed greatly to its literary status; and now, when comparative success has been attained, he has asked to be permitted to resign—an act that he has been contemplating for sometime—but has been induced heretofore to defer. It is with sorrow that the trustees and faculty accept his resignation, and he bears with him the kind wishes and the warmest remembrances of his colleagues.'

Dr. Chazal's long connection with the Medical College and his eminent ability and qualifications to fill the chair in which the better and maturer part of his life has been spent are well and widely known throughout the State. The regret of the faculty is as sincere as that of this community and the people of the State at large, who have for many years received directly and indirectly the benefits of his efforts in the direction of sustaining the high standard of the Medical College and in the education of those young men who have chosen to follow the medical profession. In Dr. Chazal the institution loses a competent, skilled and able instructor, and a gentleman whose place it will be difficult to fill with a worthy successor—*Charleston News & Courier.*

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THE BOARD OF MEDICAL EXAMINERS will be in extra session in Raleigh on the 24th and in Asheville on the 26th. Since the May meeting of the State Society numerous letters have been received at this office and at the office of the Secretary of the Board (Dr. Bellamy), and, judging by these indications, there will be a large number of applicants.

We note with gratification the cheerful obedience the profession at large is yielding to the law, and by this means the line of demarcation is being rapidly drawn between scientific medicine and ignorant pretension.

NORTH CAROLINA
MEDICAL JOURNAL.

**THOMAS F. WOOD, M. D., Editor.**

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# ORIGINAL COMMUNICATIONS.

## MICRO-ORGANISMS IN RELATION TO DISEASE.

By HUBERT HAYWOOD, M.D., Raleigh, N. C.

Annual Essay, Delivered before the Medical Society of North Carolina, at Durham, May 20th, 1885.

(Continued from August JOURNAL.)

*Relapsing Fever.*—Obermeier discovered in the blood of relapsing fever patients, and never in any other disease, a spirillum, which is called spirochæte Obermeieri. It is uniformly present when the fever is at its acme, and very quickly disappears during defervescence. Koch and Carter have succeeded in the artificial cultivation of these germs, and although there are no reports of successful inoculations of isolated cultivated spirilla, yet their causative relations are pretty generally accepted, for inoculations of blood filled with them give positive results and blood of the same patient devoid of them negative results.

*Scarlet Fever.*—In this disease Coze and Feltz find micrococci in the blood, Klein in the throat ulcerations, and Pohl Pincus in the throat discharges and adherent to the scales of desquamating epidermis. They have not yet been subjected to Koch's experimentum crucis.

*Swine Plague.*—Pasteur, confirmed by Salmon and Neguin, demonstrates the presence of a micro-coccus in connection with this disease, and fails to find the causative relation of a bacillus reported by Klein. Both of these observers claim the success of pure culture inoculations. Klein contends that Pasteur's cultures were not pure, but were contaminated with or contained solely the germs of fowl cholera.

*Syphilis.*—Numerous investigators have observed micro-organisms in the different manifestations of this disease. Hallier, Klebs and Bergmann, also finally Birch-Hirschfeld, Morison and Aufrecht find micrococci or syphilicocci, while Salisbury sees a fungus-crypta syphilitica. None of the above have been conclusively proven to be the veritable germs of syphilis, for it has been impossible to inoculate the lower animals with the disease, the only cases of reported exceptions being Klebs' monkey and Martineau and Hamsine's young pigs. Lustgarten, on the contrary, confirmed by Koch, has recently described a bacillus, characterized by color reaction, form and relative position, which he has cultivated and which he claims, upon very strong grounds, is the specific germ of syphilis.

*Tuberculosis.*—Koch, in the spring of 1882, after two years of careful cultivation and painstaking inoculation experimentation, announced the discovery of a bacillus, which is invariably present in tuberculosis material and invariably absent in other than tuberculosis morbid products. This bacillus, he claims, bears a causal relation to tuberculosis, and he has so satisfactorily established the role of this microbe by fulfilling the requirements of exact science that a large number of our best observers accept the conclusion of cause and effect as demonstrated. Others have, however, questioned the experimental proof offered by Koch, contending that tuberculosis could be produced in animals by inoculation not only with Koch's cultivated tubercular bacilli, but with a variety of organic products of non-tubercular origin, with inorganic materials, and even from the inhalation of inorganic particles. In answer to this it is replied that the positive results springing from experimentation of this kind amount to nothing, for the fact is lost sight of that animals during confinement readily develop tuberculosis, and in laboratories where experiments have been carried on and tuberculous animals confined, it is almost impossible to prevent the accidental infection of experimental animals with tuberculosis and the accidental contamination of the materials used for experimentation with tubercular bacilli or their spores. These objections bear with especial force on Dr. Formad, who, of all others in this country, has been most active in his opposition to Koch's assertion, and who, after a long discourse on the subject, embracing numerous experiments of his own, and including citations and deductions from a host of observers, finally concludes:

1. The bacillus of Koch is a valuable diagnostic sign of tubercular disease.
2. Nothing is proved by its discovery for the etiology of tuberculosis.
3. The two ready acceptance of the bacillus doctrine is not justifiable, and is likely to do more harm than good.
4. Neither phthisis nor any form of tuberculosis is contagious.

We acknowledge the correctness of his first conclusion, but as for the other three—for the reasons above given—for the lack of care and scientific accuracy of detail manifested—we must give them no consideration more than their mere mention.

Toussaint affirms that the tubercular deposits resulting from inoculation with non-tubercular material are not infectious, and that experimental pseudo-tuberculosis may be distinguished from tuberculosis proper by inoculation experiments, although the pathological anatomy of the two diseases is identical. Koch, on the other hand, does not admit that tuberculosis can be produced by material from which living tubercle bacilli or their spores are unquestionably excluded. Mr. Watson Cheyne and many others also affirm that material other than tuberculous does not produce tuberculosis. A great deal of this opposition, confusion and difference of opinion is due to a failure to agree upon a definition of tubercle and the confounding of tubercle with with tuberculosis. There is nothing characteristic in the individual nodule from the histological standpoint.

The bacillus tuberculosis is a slender rod of a width of one-half of that of its length, and from a quarter to a half the diameter of a blood-corpuscle in length—never exceeding the diameter of the blood-corpuscles. It presents certain distinctive characters as regards its behavior with staining reagents—with Ehrlich's modified method, which is the best—the bacilli retaining their red color, while all other bacteria are decolorized, the bacillus of leprosy, which has other points of differentiation, being the only exception. They are motionless—some with bright oval spores, some without—some smooth and homogeneous looking, others more of a beaded appearance, apparently being made up of a chain of oval elements. They are not infrequently covered or bent at an angle more or less acute, and not infrequently occur in pairs or in little groups. The cultivated bacilli grow slowly, requiring, according to Koch, at least a week before there is any evidence of multiplication. They are found in considerable numbers in tubercles of recent formation—more especially at the border of cheesy masses, but are not so abundant in old tubercles. They are abundant in the giant cells, and seem to possess a special relation to these cells. Koch found them invariably in miliary tubercles, in the so-called cheesy tuberculous product, in phthisical cavities, in tuberculous ulcers of the intestine, in tubercles of the brain, in lymphatic glands, which had undergone cheesy degeneration, and in fungus granulations within joints. Others have found them in caseating scrofulous glands, in the air of hospital wards occupied by patients affected with phthisis, in the expired breath of phthisical patients, in the purulent discharge from a perineal fistula, in tuberculous affections of the kidneys, Rosentheim, Babes and Barrow in the urine in tuberculosis of the urinary organs, in expectorated blood, Weichselbaum in the blood of a man suffering from acute miliary tuberculosis, Lichtheim in the stools of intestinal tuberculosis, Fraenkel in the secretion of tuberculous laryngeal ulcerations, in the sputa from phthisical patients (though not invariably, yet not in any other sputa), where they occur both within and without the pus cells, and are especially numerous in the epithelioid cells. The scrofulous and tuberculous products are shown to be essentially identical by the presence of the bacillus in each. The bacillus being the criterion of tubercle, its presence demonstrates the identity of the two forms of tuberculous disease, which Virchow, Niemeyer and others regarded as distinct affections, i. e., miliary tubercles and the collections of cheesy matter constituting the anatomical characteristic of ordinary phthisis, the latter being considered a particular form of pneumonia, and not a tuberculous affection. Klein and others contend that the tubercle bacilli in humans and cattle are not identical, and that tubercles—young and adult—occur, where no bacilli are found, whereas in the same section cheesy tubercles may be present containing numbers of tubercle bacilli. Koch, on the contrary, not only considers the pearl disease of cattle (*perlsucht*) as identical with the tuberculous disease of man, but also a cheesy glandular disease of swine and a disease of fowls, the bacillus being present in all. He also declares that the bacilli are never absent in tuberculosis, but are present in all cases, even though they escape observation, and that when they are not found in certain tubercles, they are present as unstained spores or are invisible, because, being dead, they do not readily stain, or because, the process being at a standstill, they are absent. He also accounts for the failures of some investigators by the small number of experiments, and by lack of skill to stain, and ability to detect, the bacilli. Mr. Watson Cheyne and many others have confirmed Koch's assertions as regards the constant occurrence of the tubercle bacilli in the tubercles of animals artificially tuberculized. Koch artificially cultivated these bacilli, and no matter how far removed from the original source—no matter whether derived from spontaneous or artificially induced tuberculosis, from human or bovine tuberculosis, they reproduced the disease when inoculated into suitable animals. This has been especially proven by the invariable success of inoculation experiments in the eye, which, according to all observers, is very rarely, if ever, in animals the seat of spontaneous tuberculosis.

*Diagnosis.*—The presence of these bacilli in the sputum is not only one of the earliest diagnostic signs of incipient phthisis, but one of the most constant of pulmonary phthisis and one of the most delicate tests of the disease. They are rarely absent from the sputum during the progress of phthisis. Their presence, therefore, must be regarded as a positive proof of the disease, but as they are not invariably present, their absence cannot be taken as positive evidence of the non-existence of the disease. If, however, after repeated examinations, they are found to be absent, we have strong presumptive evidence that there is no tuberculosis.

*Prognosis.*—Their abundance or paucity, after repeated examinations at short intervals in the same case, is a valuble prognostic sign, showing the activity or non-activity—the progressiveness or non-progressiveness of the tuberculous affection. The absence also of the bacilli, after repeated examinations in a well marked case of phthisis, may be taken as evidence that the tuberculous affection is ended, although more or less cough and expectoration continue as a result of the lesions incident to the tuberculous disease.

*Contagiousness.*—Not only can consumption be communicated by inoculation experiments and the consumption of tuberculous matter and the milk and flesh of tuberculous cattle, but also by the inhalation of the expired air of consumptives and through the medium of tuberculous sputa. M. Ch. Fernet contends, too, that primitive genital tuberculosis may probably be caused by direct contagion in sexual intercourse with a subject affected with genital tuberculosis, thereby producing secondary general infection. There are besides numerous experiments and cited cases, which prove its undoubted contagiousness in various ways. The most usual way of communication, however, is through the lungs, with the inspired air and through the agency of tuberculous sputa and breath.

*Treatment.*—As yet this discovery has not shed any light upon the specific treatment of consumption, but has opened up inquiries in regard to its prophylaxis. What, then, are we to conclude from all of this? The answer is simple :

The best and greatest number of observers, some of whom were at first most violent in their opposition, have confirmed Koch's demonstrations of the parasitic nature of consumption, and have also declared that every tubercle comes from a bacillus, that Koch's bacillus tuberculosis is the *vera causa morbi*, and that tuberculosis is a contagious disease.

*Typhoid Fever.*—A short, thick bacillus, with spores and rounded ends, is found (post-mortem) in the liver, kidneys, spleen and lymph glands in the majority of cases of typhoid fever by Eberth, Koch and Friedlander, and larger bacilli in the vicinity of the intestinal ulcers and in the larynx and lungs by Klebs. Maragliano asserts the presence of both varieties in blood drawn by a hypodermic syringe from the spleen in fifteen cases intra vitam. It would seem, however, that he protests too much, for even post-mortem only Eberth's, never Klebs' bacilli, are found in the spleen. It is, however, doubtful whether these bacilli are necessarily and intimately connected with typhoid fever, as they are not constant, and only occur in localities where an immigration of putrefactive bacilli can easily take place from the bowels, which in typhoid fever contain innumerable numbers of microbes, and whose mucous membrane in this disease severely sloughs and becomes necrosed at Peyer's glands. Other observers have, however, found other micro-organisms, but their observations and experimentations have proven to be untrustworthy. Eberth has never found his bacillus in any other disease. Although facts point strongly to the parasitic origin of this disease, and although Koch is of the opinion that the bacillus of Eberth is the only one which has a specific relation to typhoid fever, yet the conclusion, of cause and effect cannot yet be accepted until demonstrated by cultivation and inoculation experiments. As yet such demonstration has not been conclusively offered.

*Endocarditis Ulcerosa.*—This affection, so frequent in the course of pyæmia, is characterized by the presence of micrococci, according to Heiberg, Maier, Eberth, Koster, Klebs, etc., but whether as only an accompaniment or as specific causes, has not yet been positively determined.

*Variola.*—Variola is supposed by Coze, Feltz and others to be due to a characteristic bacterium, while Luginbuhl, Weigert and others attribute it to a micrococcus. Micrococcus is also found in vaccine lymph analogous in every point of view to those of variola. Cohn considers the micrococci of variola and vaccinia as two races of the same species. Positive inoculation experiments are still wanting, unless we accept the report of Dr. Queist, of Russia, who affirms the successful cultivation and inoculation of vaccine virus—the micrococci developing into bacilli, and these again into micrococci. Toussaint also claims a bacillus as the specific cause of sheep-pox, and Lagrolet, Jolyet and Delage—after cultivations and inoculations—affirm the parasitic origin of picote or variola in pigeons.

*Whooping-Cough.*—Burger has regularly found in the expectoration in this disease peculiar bacilli, which he has never found elsewhere. Letzerich's causal fungus is now discredited by every one. Poulet found peculiar bacteria in the sputum, Letzerich a bacterium, and Tschamer, of Gratz, a microphyte similar to the black mould of orange peel. These different organisms are supposed to be causative, but the only conclusion, as yet, to be drawn from the experiments yet performed, is that the *materies morbi*, be it bacillus or be it what it may, lives on the surface of the epithelium, and does not get into the blood. It has not as yet been conclusively isolated.

*Yellow Fever.*—Dr. Sternberg, in his report of the Havana Yellow Fever Commission, states that he could find no micro-organisms which could be considered in a causal relation to this disease. Dr. Carmona, of Mexico, however, claims the discovery of a yellow fever germ in the blood, black vomit and urine of yellow fever patients. This fungus of many forms and many colors he calls peronospera lutea. Sternberg could find nothing corresponding to this organism in his examinations, and thinks there must have been accidental contamination of Carmona's specimens with some foreign atmospheric germs. Dr. Domingos Freire, of Brazil, finds in the blood of yellow fever patients a germ, which he considers specific, and calls cyptococcus xanthogenicus. He has performed various inoculations and experiments with materials containing this cryptococcus, with the result of reproducing the germ, and, as he supposes, the same disease. He does not, however, report the successful inoculation with a pure culture of his cryptococcus. Hineman, of Vera Cruz, has also failed to find in the blood before death Carmona's peronospera lutea and Freiere's cryptococcus xanthogenicus. M. Bouley recently, at the French Academy of Sciences in Paris, presented a note from Brazil on yellow fever, stating the microbe was a cryptococcus found in the blood, black vomit and dejections. A large number of inoculations with a mitigated virus appear to have been successfully made, and all of the persons (over five hundred) so treated escaped the disease. M. Bouley accepts the facts of the vaccination and its protective power, but doubts the characters of the microbe. Messrs. Mozly and Harrison have recently made experiments, which have served to throw discredit on the conclusions of Dr. Domingos Freire, of Rio Janeiro, in regard to his pathogenetic element of yellow fever. They contend he has mistaken septicæmia in the lower animals for yellow fever, which confirms the observations of the Havana Yellow Fever Commission of the National Board of Health. Sternberg states that no satisfactory evidence has yet been obtained that any one of the lower animals is susceptible to yellow fever, and therefore, as a test of the specific pathogenic power of a suspected organism, a pure culture must be administered to man himself. Thus the matter stands, and requires further careful examination.

*Mumps.*—Capitan, Chanin, Bouchard, Nether and Boinet have found a characteristic microbe in the blood and saliva of mumps ratients. Boinet cultivated them, but his inoculations were not very successful.

*Beri-beri.*—Beri-beri, an obscure disease introduced from India into Brazil, has been studied by Dr. De Lærada, of South America, with the result of isolating, cultivating and successfully inoculating a specific bacillus. The bacilli are found in the blood, and especially in the muscles and spinal medulla.

*Rinderpest.*—Dr. Andrew Smart, of Edinburgh, published a description of micro-organisms, with drawings, found in the disease called rinderpest in 1865. This is claimed to be the first demonstration of bacteria in living tissues. Micrococci have also been found by Klebs in the lymphatic glands, and by Semmer in the lymphatic glands and blood. Their causal relation is not positively established.

*Surgical Lesions.*—The good effects observed in lesions where the access and multiplication of germs are prevented by continuity of skin, cleanliness, antiseptical and germicidal applications—in other words, by aseptical (surgically clean) treatment and the demonstration of the important factorage of bacterial growths in the production of local and constitutional symptoms, when introduced, retained and permitted to multiply—in other words, when the wound is septic, open up a wide field for further research. The subject is too comprehensive to admit of more than the most cursory examination at the present time.

The evil effects of putrefactive bacteria, which are not identical, but distinct from septicæmic bacteria, have long been recognized, and in wounds where micrococci only are present, we have decomposition without odor, but the development of the bacilli is always accompanied with odor more or less fetid.

Septicæmia is a collective name for processes more or less similar, but etiologically distinct—at least in certain of the lower animals—any one of certain unorganized substances, any one of certain bacteria (at least three in the mouse) may induce characteristic symptoms. Septicæmia and aseptic fever as well may also be due to the absorption of different ferments, especially fibrin ferment, etc. Various forms of infectious septicæmia and pyæmia, identical in clinical and anatomical appearances with the same diseases in man, have been produced by different observers, Koch, Davaine, etc., in different animals, by the inoculation of putrid and other substances, and the results attributed, directly or indirectly, with more or less certainty, to different micro-organisms contained therein and reproduced in the animals so infected. Amongst the diseases so produced may be mentioned—

*Septicæmia.*—Koch's artificial production of this disease is accepted as due in mice to a bacillus, and in rabbits to bacteria, pure-culture inoculations having been successfully performed by Koch, Saffky and Loffler. Septicæmia has also been produced in rabbits by Sternberg by saliva inoculations, and the result proven by pure culture inoculations to be due to a micrococcus present in the normal mixed secretions of the mouth. This micrococcus is found to correspond to Pasteur's microbe, which he at first thought was the cause of hydrophobia.

*Pyæmia.*—Koch has produced this disease in rabbits artificially, and finds a micro-coccus constantly associated. Semmer has confirmed his results. Although these micrococci have never been artificially cultivated, there is hardly any doubt of their causative relations.

*Spreading Abscess.*—Koch has caused spreading abscess in rabbits by injecting putrid blood, and certain associated micrococci are considered the specific agents. Reasoning by analogy, septicæmia and pyæmia in the human being are supposed to be due to the vital activity of micro-organisms. There are strong arguments in favor of this supposition, although pure-culture inoculations have not yet been practised. The result of the observations and experiments of Ogston, however, has led him to conclude that septicæmia, pyæmia and septic pyæmia are one and the same disease, and that their sole and invariable cause is micrococcal poisoning. Experimental proof is also constantly accumulating to show that the inflammatory and other changes which ensue in wounds, often producing the most serious and dangerous consequences, are the results, with few exceptions, of the vital action of micro-organisms. Then, too, the proof that micrococci are the essential cause of suppuration, is rendered very strong by the results of inoculation, pus devoid of micro-organisms being inocuous, while that containing micrococci, even in minute doses of a minim or more, invariably occasions well-marked trouble. Ogston asserts that all suppuration is produced by microbes, except in cases of burns and blisters. None also are found in chronic abscesses. Ogston has therefore, by pure culture inoculation, established the role of the micrococcus of pus and acute abscesses. The most valuable of recent contributions upon the relation of micrococci to wounds, abscesses and septic processes is the report of Mr. Watson Cheyne to the Scientific Grants Committee, from which we gather—

1. There are various kinds of micrococci found in wounds treated aseptically, differing materially from each other in their effects on animals.

2. The effects of these micrococci on rabbits and men were not similar.

3. The kidney is apparently an important excretory organ for organisms.

4. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals.

5. Suppuration is not always due to micrococci, but may be caused by mechanical or chemical irritants, such as croton oil, etc.

6. Micrococci are always present in acute abscesses and are probably their cause.

7. In some cases the micrococci are the primary cause of inflammation and suppuration, as in pyæmic abscesses; generally, however, they begin to act after inflammation has been previously induced by an injury, by the absorption of chemically irritating substances from wounds by cold, etc.

8. There are several different kinds of micrococci associated with suppuration.

9. Micrococci cause suppuration by the production of a chemically irritating substance, which, if applied to the tissues in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

10. There is no reason for denying the existence of antiseptic suppuration.

11. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

12. The micro-organisms of septicæmia, of pyæmia and erysipelas are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces; in pyæmia they grow in the blood to form colonies and emboli; in septicæmia

they may only grow locally, the symptoms being due to the absorption of their ptomaines; or, if they grow in the blood, they do not form colonies, and emboli. Septicæmia may also be due to other organisms besides micrococci.

13. There are no facts to support the view that it is the same micrococcus which under different conditions causes these various diseases.

Although this does not begin to exhaust the list of diseases which have been studied microscopically and experimentally with reference to the germ theory, yet enough has been recited above to give you a fair idea of the immense amount of careful work which has been bestowed upon this wide, and as yet greatly unknown field of etiological research and the vast amount of positive information and demonstration springing therefrom. I will not tax your patience with the recital of further details, for I fear I have already wearied you with the length of this paper. The germ theory rests upon a solid basis. Much, however, yet remains to be done, and if this essay shall stimulate any one in the pursuit of this all-absorbing and important branch of study, I should feel amply repaid for my feeble effort in its behalf. When a germ shall be isolated for every disease and an efficient germicide, which will prove destructive to each germ, and yet is harmless for the human system, or, in other words, which is not a homicide, shall be discovered, etiology and practical medicine will indeed be upon a substantial basis. Enough has already been done to encourage the belief that such will be the case in the not very remote future.

In conclusion, with thanks for your kind indulgence, I would say, in the language of another: "Although I have omitted much of real value, the time has passed when the critic of the germ theory of disease can content himself with captious remarks upon fashions in medicine, deluded followers of speculative theories, etc. As well might the geographer deny the existence of Africa because a topographical survey had not been made of its interior. All along the border line of the unknown are enthusiastic explorers engaged in the difficult and dangerous work of investigation with a heroism and determined fortitude of a Livingstone or a Stanley."

(Concluded.)

# ADDRESS OF DR. J. W. JONES, PRESIDENT NORTH CAROLINA BOARD OF HEALTH.

(Read before the Conjoint Session, held on the 20th May, in Durham.)

The ancients, not only the Greeks and Romans, but the Barbarians, assigned the healing art to a divine origin.

In classical mythology health is represented in the person of Hygeine, the daughter of Æsculapius, and worshiped at Athens, Corinth, Argos and Rome.

In the works of art she is usually represented as supporting a serpent on a staff and giving him water from her own hand—a beautiful symbol of preventive medicine—peace and good will to men.

For ages the investigation of the laws of health and disease was prosecuted by the medical profession under the head of "Causes of Disease," but in the last fifty years it has entered upon the higher and broader sphere of prevention of disease and the prolongation of life under the head of preventive or State medicine, embracing a study of the laws of health and disease, and the conditions that tend to impair health and bring on premature death, together with rules of perfect culture of body, mind and soul.

On the sixth day God created man in his own image and likeness. Male and female created He them. He put them in a garden in Eden, a paradise of physical pleasure, "where existence was a joy, where it was delightful to think, feel, see, hear and be; in which they were to discharge the duties of life, resist the temptations of evil, and go on in the journey of life, getting and giving good." But the happy pair yielded to temptation, and with rash hand in an evil hour our mother Eve

> "Forth reaching to the fruit she plucked, she ate;
> Earth felt the wound, and nature from her seat
> Sighing through all her works, gave signs of woe—
> That all was lost."

"The immortal took on mortality—the incorruptible frame corruption." He had died in his first estate. He was pathological in his new.

The moral demands of violated law were graciously met by the death and sufferings of Christ. The demands of the physical law could not be cancelled.

Nature is implacable, it knows no word of mercy. Displace but one of her smallest parts by spiritual emotion, mental or physical action, and all surrounding matter, extending to the limits of the universe, is disturbed. Unalterable, because no reaction restores disturbed matter to its former place or condition, and as enduring as matter, which is thought to be indestructible, and consequently, as far as we can comprehend, without end. But there are laws in mercy given that govern matter as unerringly out of place as those that govern it in place.

The meteor that shoots across our horizon moves with no less fixed laws than those that hold the North Star in its place.

It is the work of science to observe and study nature as it is presented to us in its varied states and combinations, and to disclose to us the laws imposed on it by the Creator.

Every organized body exhibits a series of phenomena called life—vitality—the essentials of which are the elements of its structure and a certain range of temperature. It is characterized by an origin, successive development and growth, the process of nutrition and assimilation and the combustion of effete particles of structure—the disturbance of any one of which is disease, the cessation, death.

Life is a resultant of certain combinations of matter and forms, varying as to the matter, or group of matter, and the spirit and the law imposed by the Creator in the beginning.

If matter is indestructible and spirit eternal, death is only a change in the state or condition of matter or spirit making up the combination. In man it may be either a change in some of his material parts, making a partial death, or in all of them; or a separation of his spirit from his body, or an estrangement of the spirit from the Spirit of his God, who is a Spirit. In all of these cases the whole man suffers a corresponding change, his material body taking on new forms and functions, or falling into decay to again enter into combination fit for other uses and places—matter making her eternal rounds and the spirit returning to God who gave it.

All the phenomena of life indicate that it is one of continual progression:

First, of growth, then of decline, with manner of living, food, pleasure, pains and forms of disease corresponding to each of these periods. In early life the tissues are soft. As age comes on they harden, together with other changes in weight, height, appearance of skin and hair, the ability to endure and the susceptibility of the senses. All these changes occur in every case. The rapidity of the succession may be varied by many circumstances, some inherent and some exterior.

The natural division of the animal kingdom has been variously classified, each class presenting marked characteristics, as length and habits of life, distinctive features, shapes, sizes and color.

The fauna and flora show that while the animal and vegetable world have undergone many changes, the same law of proportions has prevailed in all the ages, before and after the flood, in that every part of them and period of their life bears a fixed proportion to each other part and time of life. The length of life of the mammalia, to which class man belongs, is estimated at about four or five times the time of his growth. Accordingly this law, which gives us an approximate starting point in the calculation of human life, is substantially the one adopted by both the physiologist and the naturalist.

The length of man's natural life is about 80 or 100 years. Most men die of disease, but few of old age. From his very nature man ought to live 80 or 100 years. If so, then it is his duty to obey the laws of life and health, and any course of life that will induce disease and bring on premature death is unlawful and sinful. Health and long life are motives appealed to by the sacred writers. Solomon says: "The fear of the Lord prolongeth days, but the years of the wicked shall be shortened."

The Mosaic law everywhere enforces the laws of health. Christianity teaches us to honor God by honoring our bodies, and so keep them in this world, that in the world to come they may be bodies glorified, fit for glorified spirits. It enforces purity, cleanliness, temperance; and as soon as these find entrance into the squalid and vicious houses, they begin to refine and start the inmates in a new line, which manifests itself without in results at which the sanitarian is aiming.

To live through all the periods of life, to reach the highest point of organic energy, exhaust all man-forces, require rare physical, mental and moral combinations, with surroundings in perfect keeping with the organism, with the growth and habits in full and complete obedience to all the pertaining laws, and without any extraneous inferring causes. Healthy parentage, sound body, good food, pure air, clean water, the proper clothes to wear and houses to live in, together with "the love of God, as it is the sovereign remedy for all miseries, so in particular it effectually prevents the bodily disorders that the passions introduce by keeping the passions themselves within due bounds, and by the unspeakable joy and perfect calm serenity and tranquility it gives the mind, it becomes the most powerful of all the means of health and long life."

How to live long and healthy is embraced by M. Revielle, of Paris, in four general rules of living:

1. How to live.
2. Know thyself.
3. Arrange wisely the habits of life.
4. Combat disease in its beginning.

Canarvo, an Italian of noble birth, noted alike for his learning and age, in early youth wandered from his father's house and prostituted himself till life was despaired of by himself and his physician. At the age of 25 he came to himself, and by a properly regulated life lived to be 100 years old. He gives this one universal rule:

"Properly protected from excessive cold and heat, live soberly and temperately."

In this extraordinary case we learn how much abuse our frames can endure and to what a remarkable extent it can be restored by a properly ordered course of life.

What we have said refers mainly to individual life. Man cannot live alone; he lives with his fellow. With a common origin, he is heir to the common ills of the race—its pleasures, pains, weals and woes. The clean and unclean must drink the same water, the good and the bad must breathe the same air. So his condition in society is one of disorder and distress, and when left to individual effort for aid, well nigh helpless. The work for his relief must be one of the community, in which all the people are joined and the State aids.

So deeply is this felt by the good men of all shades of belief and creeds, that the efforts for his relief have become a common work. Religion and science are not twin, but one in their labors for softening the ills of life and preventing sickness and pain. Art, too, has joined her queenly sisters, with her apparatus of enlarged investigation and extended vision and appliances to make labor lighter, rest easier and life healthier, happier and longer.

The work has been divided into various fields of labor, that it may be done more thoroughly and by expert hands and thinkers. Our field of labor in this great work is that of "healing of the nations," and happily for our race, the intelligence and virtue of the present generation have been directed to sanitary reform. Medical associations and boards of health have been formed in all Christian countries.

To-day we are assembled in conjoint session of the North Carolina Medical Society and Board of Health, to consider the things best for the health of our people, whose mission it is to be a general physician and guardian to the people, whose duty it is to investigate intelligently, and to speak with authority on all the circumstances that in any way affect human life and the entire record of disease, their causes, concomitants and tendencies, both immediate and remote; on the physical condition of the State, as it relates to health and disease; on the drainage, winds, temperature, snow-fall, forest growth and water; to study the structure of society and the social relations of man and the duties growing out of these relations; to investigate the principles and laws affecting the welfare of man in society, the momentous question of his health, his wealth and his happiness. Our objects are broad, our purposes high enough so to appeal to the deepest sympathy and command, the fullest efforts and confidence of citizens, scientists, christians and states.

You will permit me to say that, while we do need better environment, better air, food, water and drainage, that is not man's greatest need. The greatest needs of man are moral and intellectual needs. The strongest forces for his elevation are his moral forces. They must be appealed to to arouse his dormant self-respect, deadened sensibilities and flagging energies. There must be begotten in him a hope for better things and an assurance that for his labors for a higher and better life there is a sure reward, in order to stir him to do for himself things that he alone can do.

> "The fault, dear Brutus, is not in our stars,
> But in ourselves, that we are underlings."

In England sanitary laws are best executed, and from her official reports we make extracts showing what sanitary laws are capable of in the prevention of disease and premature death.

The reform is in its infancy, and shows nearer what can be done than what has been done. Even now the plagues have ceased.

Cholera, yellow fever, typhus fever and leprosy have come under the control of sanitary laws. Many diseases are prevented altogether. From the official report of Mr. Chadwish, the chief officer of the English Board of Health, it is shown that in ten years, from 1871 to 1881, after work of thirty years, there was a reduction, by sanitary regulation, in the death rate of England and Wales of 4½ per cent., from which it was estimated that about a quarter of a million of people were saved from death, and one-half of the whole population were saved from serious, though not fatal, sickness, with a money-saving of $3,000,000 in medical treatment and other expenses, not including burial expenses and loss of time. Three-fourths of this reduction in death rates are under the head of contagious diseases, which were controlled or prevented by isolation and three-eighths under the head of fevers, which were controlled or prevented by a better drainage, pure air and clean water.

In London the death rate among the wages classes show a gain of sixteen per thousand in the ventilated modern buildings, over thirty per thousand in the old, common dwellings. The same veteran official estimates that the neglect of sanitary laws costs England annually more than the interest on the British debt, which is £84,000,000.

In the military service the effects of the sanitary reform is better seen, because under strict army discipline.

The first army that was sent out to the Crimea was lost by sickness; "the one sent to take its place," said the war minister, "was saved by the sanitary commission that went with it, which in three months reduced the death rate of the Crimean army from a plague rate to the ordinary health rate.

In India the ordinary death rate was 69 per 1,000. From 1869 to 1878 it was reduced to 20.41, a gain of 48.59, or about 23.50 men's lives saved and 28,200 cases of sickness. In the home service it was reduced from 18 per 1,000 to 7.55 per 1,000, against 10.55.

In our own country, as well as in all others where sanitary law has been enforced, the same general results have been seen, and in many cases much more encouraging ones.

For the State Board of Health to do its full work prompt reports must be made by county superintendents. In order that county superintendents may do their full work, they must have reports from the physicians in their county, together with the co-operation of the civil officers.

The whole of society must become interested and co-operative—the Governor, the judges, the county, town and city authorities.

As this great reform has begun with the medical profession, so it must be carried on by it. We must instruct the people, awaken sentiment in its favor, and have the law executed. And, gentlemen, like all other reforms, it must have its sacrificial votaries.

# REDUCTION AND TREATMENT OF DISLOCATION OF HIP JOINT.

By W. T. Ennett, M.D., Burgaw.

(Presented to the Medical Society of North Carolina at its Thirty-second Annual Meeting in Durham.)

This being the second case of dislocation of hip joint in my private practice, and one presenting some peculiarities of interest to me, I have determined to report it.

On the 22d of September (1884) Mr. James H. Moore, of Burgaw, fell from a scaffold at the roof of his house. Being in Wilmington at the time, I was telegraphed for. Arriving here about 9 or 10 o'clock, I immediately examined him as closely as possible without an anæsthetic. Thinking there was trouble at the hip joint, I at once chloroformed him and made a thorough examination. The acetabulum being of immense depth, and the head of femur being long, I readily completed my hasty examination by finding head of femur upwards and backwards upon dorsal surface of illium resting in fossa of bone. Hip deformed. The limb 1½ inches shorter than the sound limb. The knee a little above and in advance of the other. The thigh bent on the pelvis. All attempts at extending foot were unavailing. Any attempt to rotate or abduct caused the most intense pain.

Without assistance and proper implements, I provided a bandage, and with manipulation finally reduced the dislocation, and found the soft part very much injured. Considerable effusion of blood around the joint. I feared a long, stubborn case, which proved to be true; but time brought all things right with the exception of a little shortening. I did not like that, but examined hip and leg more than once, and found no deformity.

About the 1st of March (six months after the accident) I still found a little shortening. I consulted several physicians, among them our distinguished associates, Drs. Bahnson, of Winston, and Thomas F. Wood, of Wilmington. They both thought the tearing or wasting away of the cotoloid cartilidge caused by the effusion around the joint, and the patient remaining in bed so long after reduction, without any exercise at all, caused a contraction of muscles amounting to anchylosis, which would take sometime to overcome. It now seems to me such is the case, as I have within a few days examined it and measured it, and find a difference of about 3 inches within a month.

I visited him frequently, looking after his general health, as well as to his wound.

### ADDENDA.

Since our meeting, on examination I find the limb only ½ inch shorter, gradually extending, and I predict in a few months the limb will be natural and the same length as before. Some cause of shortening, I think, is in the knee-joint, that being a little stiff, but is gradually disappearing. When the case is entirely cured I would like to give a more extended report, stating some facts of the case I have withheld purposely.

## EXPERIMENTS ON A CRIMINAL.*

By M. M. P. Regnard and P. Loye, of Paris.

(*Le Progrès Medical*, July 18, 1885.)

The studies which physiologists can make of the bodies of criminals are quite often rendered fruitless by the impossibility of receiving the body immediately after the execution. Complying with certain superanuated formalities uses up valuable time. It is nearly an hour after decapitation before experimenters can commence a study the interest in which is then much diminished. That which is not allowable in Paris, is, on the other hand, possible in the province ; so, thanks to the great obligingness of the authorities of the city of Troy, we were able, on the 2d of July last, to enjoy some conditions of experimenting which for a long time had not been so advantageously furnished.

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* Translation by C. T. Peckham, M.D., Passed Assistant Surgeon, M. H. S.

Our intention was to make a certain number of physiological researches, the plan of which had been suggested by M. Paul Bert, and, at the same time, observe the first effects which follow decapitation in man. This last point has always had the privilege of exciting the curiosity, not only of physiologists, but also of psychologists ; the latter have always asked if conscious life persists after the separation of the head from the trunk, or if death takes place at the instant of decapitation. We acknowledge that this preoccupation was not ours, yet the facts which we have collected will permit us to form some opinions on this contested point.

Placed at first at the very place of execution, then in the conveyance which bore the cadaver to the hospital, we were able to begin our researches in less than a minuate after the decapitation. This is what we observed :

1. At the moment when the condemned was placed upon the block (instrument of torture) he was very probably in syncope ; he remained wholly inert, the eyes staring and the mouth open. At the precise instant in which the knife severed the head, we saw with the greatest distinctness a general contraction of the muscles of the face ; the horrid grimace which resulted from it ought, without doubt, to be connected rather with the direct excitation than with a psychical phenomenon. Was this contraction accompanied by an analogous phenomenon on the part of the body ? We were not able to recognize it on account of the thongs which confined the condemned very closely. The traditional basket had been replaced by the criminal's bier : so the cadaver was delivered to us without manipulation in less than a minute after decapitation in the executioner's wagon. The first fact which impressed us was the complete inertia in which it seemed to be : the face was calm, the features composed and the mouth and eyes closed. We were far from those disordered movements which many authors attribute to the cadaver's of criminals, while referring, perhaps, to what one refers in certain animals (ducks, cocks, etc.) when they are killed by decapitation.

2. We attempt to raise the body : it is in a state of complete

contraction, of the extensors as well as of the flexors. On raising the legs, one raised the whole body; it is impossible to flex the knees, or to flex the thigh on the pelvis. Something analogous seemed to exist in the head. The eyelids, which were widely open at the moment of the fall of the knife, are convulsively closed; it is very difficult for us to hold them open for the experiments which are to follow. This condition of general contraction lasted two or three minutes (a great precision in measurement is difficult to obtain in a carriage jumping about with the gallop of the horses).

3. Do the reflexes persist after decapitation? After rigidity had ceased we pinched the skin of the body, we tickled the feet without causing the least movement; the patellar reflex has completely disappeared. We excited strongly the surface of the eye without leading to the slightest contraction of the lids or muscles of the face. Strong irritation of the spinal cord at the point of section gives no result. The pupil, fairly dilated, scarcely contracts at the approach of strong light. Three minutes after decapitation we are able to observe, not only no spontaneous movement, but even no reflex; only the pupil contracts a little in the presence of light.

We arrived at the hospital, where a ward for experiments had been carefully prepared by Dr. Vanthier, physician in chief of Hotel Dieu of Troy. The head of the criminal was given to Mm. Lalorde, Rondeau and Gley. We confined our experiments exclusively to the trunk.

4. Our first experiment was to determine the action which the pneumogastric nerve exercises over pulmonary contractility. The researches, so contested of Williams, so well repeated and carefully determined by M. Paul Bert, showed that in the dog the muscular fibres of Reissessir, circularly arranged about the bronchi, have the vagus nerve for agents of innervation. Unfortunately, the pneumogastric of the dog is intimately connected with the sympathetic: so that it was difficult to say exactly to which of the two nerves one ought to attribute the influence over the muscles of the lungs. On the other hand, in man a separation exists, and the experiment which we are going to make will permit us to solve the question.

We made an opening into both pleuræ in order to allow the air to penetrate freely. The expertment would be of no value if the pulmonary elasticity is complely satisfied. A water differential manometer is introduced into the trachea and firmly fixed upon it;

then the pneumogastrics are excited by an induced current. Immediately we observe the rise of the liquid in the manometer—slow rise, followed by a very slow, uniform descent, as soon as the current is interrupted. This experiment, a trifle slow in preparation on account of the condition of the wound, was made in 82 minutes after decapitation. It shows that it is indeed to the action of the pneumogastric that pulmonary contractility is due.

5. Later (60 minutes), and after the opening of the thorax, we placed one of the poles of the current upon the pulmonary surface, and the other upon the trachea in the mediastinum; we excited thus the pulmonary tissue directly; the fibres of Reissessir contracted, and the liquid slowly ascended in the tracheal manometer.

6. Forty-five minutes after decapitation we opened the abdomen of the criminal. We did not observe any spontaneous movement of the intestines or stomach; the contact of air did not any longer lead to any. We excited the vagus nerves; immediately we observed very evident movement of the stomach and intestines, movements extending even to the transverse colon. According to Louget, this motor action for the stomach would be produced only when the stomachal cavity is full of food; here the stomach was in a condition of absolute vacuity.

7. We open the stomach; it is completely empty. A strong alcoholic odor escaped, the condemned having drunk a little brandy when going to the block. We excited over the pneumogastrics; the stomachic mucous became strongly wrinkled and folded. At the same time we saw spring up, almost uniformly over the whole surface, drops of gastric juice. It is known that authors are far from being in agreement upon the innervation of the stomachic secretion. Our experiment was completed in 45 minutes after execution.

8. M. Demoulin, assistant in anatomy of the faculty, dissected the dorsal and palmar enteroses and lumbricoidi muscles. The induced current being sent successively into the different muscles, we observe that their action is precisely that which had been attributed to them by Dudemee, of Bologna.

To sum up, then, we insist upon the following facts we observed: Sudden and general contraction at the moment of excitation of the cord by passage of the knife, contraction which lasts 2–3 minutes; disappearance of reflexes, even the grossest; evident action of the pneumogastric upon pulmonary contractility; evident rôle of the fibres of Reissessir in this contractility; innervation of the movements of the stomach and intestines, due to the pneumogastric; well-marked influence of the vagus nerve over the stomachal secretion; finally, verification of the mechanism of the muscles of the hand.

(1) These experiments do not bring to light unexpected facts, but they confirm those which one has seen in animals and by reasoning had extended to man. On the other hand, the first part of our researches may perhaps reassure psychologists who doubt the persistence of conscious life after [execution of the pain of death.]

(2) A needle put into the heart by M. Lalorde showed 51 beats twelve minutes after execution. The beatings disappeared at the twentieth moment. At the autopsy the heart was found completely relaxed; the cavities contained some clots.

# SELECTED PAPERS.

## DISEASES OF CHILDREN.

### SPECIAL THERAPEUTICS OF ECZEMA.

1. A fatty condition of the skin has already been referred to as predisposing to eczema. In such cases it is of the greatest importance to regulate the diet. All starchy and saccharine foods are to be avoided, and the diet should consist as much as possible of milk, cream, eggs, broth and meat. In these cases *massage* is frequently of service, the hand lubricated with vaselin is used to shampoo the body and limbs, passing but lightly on the eczematous parts. By this means the circulation of blood and lymph is promoted. Alkaline baths may also be used, two to four ounces of common soda or potash being added to the child's bath.

In the contracted and anæmic condition of skin we have as yet but few internal or external remedies. Liq. arsenicalis in one to six drops twice a day may be given. Pilocarpin hydrochlorate may be given, 1-20th of a grain in syrup at night to produce perspiration, the child being well wrapped up to prevent chill. Externally, tarry, sulphur, or naphthol preparations take the highest place. For example, one of the following ointments may be applied at night: Picis liq. 10, sodæ sulpho-ichthyol 5, cretæ alb. 15, adipis 120. Or naphthol, sulphur præcip. *ana* 5, ung. zinci 100. Next morning the ointment is to be carefully washed off with warm water and soap, the parts carefully dried, and some "paste" suited to the condition to be applied during the day. If the eczema is raw or wet, the mild drying preparations are most suitable, such as the zinc-ichthyol gelatine jelly. If the eczema is dry and indolent, and the itching considerable, the stronger preparations are necessary, as for example: zinc oxidi, picis liq. gelatin, adipis *ana* 10; glycerin 80; or amyl 10, glycerin, zinc oxidi *ana* 20; acidi salicylici 3, aquæ 100. Mix and boil down to 100 parts. It is not necessary to wash off the remains of the paste or gelatin preparation applied during the day, before applying the evening ointment.

In the treatment of the intertrigines, due to the accumulations of sweat and consequent fretting of the skin at the flexures about the neck, groin or axilla, it must be borne in mind that too much washing with soap and water is harmful. The folds where the surfaces of skin come in contact are to be cleansed with a sponge moistened with the liniment of lime water and oil, and then some drying powder applied. In the worse cases the flexures may be dabbed with a lotion containing sulpho-ichthyol (1 p. c.), or zinc sulphocarb, or tannin, and then powdered with zinc oxide, calamine, bismuth subnitr., or tannin. It may be necessary to keep the parts from contact by means of zinc or lint paste.

The treatment of the eczemas due to the hypersecretion of neighboring mucous membranes, necessarily in part depends on the cure of the primary lesion, as, for instance, operation for ectropion, cessation of a diarrhœa or otorrhœa. In some of these local eczemas, especially of the nose and ear, the zinc salbenmulls, or lead pflastermulls are useful applications for protecting the skin from contact with the secretions. The author describes an ingenious arrangement for cases of ozæna with eczema of the skin about the nares, consisting of a paper tube surrounded by zinc salbenmull, which he inserts into the anterior nares, thus keeping the openings free for the admission of air, and securing a continuous contact of application to the affected parts.

2. The treatment of eczemas originating in physical causes, such as exposure to the sun, over-treatment by ointments or baths, or from friction or scratching, is comparatively simple, inasmuch as it resolves itself into the avoidance of the cause and in the application of external remedies. Eczemas produced by exposure to the sun's rays, on the face and hands, are best treated by the application of zinc salbenmulls during the night; those produced artificially by chemical agents, by the application of the liniment of lime water and oil, to be followed by a drying powder. The best treatment for itching is the removal of the eczema which produces it; alkaline solutions, containing tar, salicylic acid, lotio plumbi, Peruvian balsam, zinc, sulpho-carb. Camphor and chloral may be used to allay irritation.

Eczemas produced by pediculi must necessarily be treated by the well-known anti-parasitic remedies, as petroleum, balsam of Peru, storax and ichthyol preparations. Eczemas caused by vegetable parasites, as the eczema flexuarum, psoriatiforme, and seborrhoicum (see pp. 66–67) are favorably influenced by arsenic, and by external applications containing such anti-parasiticides as mercury, salicylic acid, ichthyol and tar. A modification of Wilkinson's ointment is of service, such as picis liq., sulphur *ana* 10; cretæ alb., 20; saponis virid., adipis *ana* 30. More recently a 20–30 p. c. resorcin-vaseline ointment has been used with success. In both eczema flexuarum and psoriatiforme zinc-sublimate-pflastermull may be applied; in mild cases, solutions of zinc sulpho-carbolate (1 p. c.) or corrosive sublimate (1–2 p. c.) For eczema seborrhoicum, the sulphur-containing remedies answer best, as zinc paste or glycerine jelly, with 5–10 p. c. of precipitated sulphur. Eczema bullosum or scrophulosum must be treated both internally and externally with cod-liver oil; in the latter case combined with sapo viridis. Red precipitate ointment also answers very well. In strong irritation of the skin antimony may be given internally, and in glandular swelling sulphide of calcium.

The paratypic eczema (E. hypertrophicum verrucosum) of older children, if circumscribed, may be treated with zinc, tar, corrosive sublimate, pflastermull, or by the following ointment: acid. salicylic, saponis virid., *ana* 10, adipis 30.

3. Eczemas of nervous origins, with the exception of the milder cases, require internal as well as external treatment. In the herpes-like papular eczemas due to dentition, the author employs his zinc-ichthyol jelly (p. 163) externally, and small doses of calomel internally; when the eruption is universal, weak lotions of tar, or ichthyol, or tar soap may be used. Here, also, baths, containing sulphur and alkalies, are useful, to be followed by applications of zinc pastes or zinc salbenmull.

In lichen urticatus the wheals or papules may be dabbed with salammoniac in spirit and water, or diluted belladonna tincture (1–10), and then some drying powder applied. Lotions, containing chloral, zinc oxide or calamine are useful. Calomel may be given internally. In the most severe cases of papular eczema with contraction of the skin, the following ointment may be applied at night: Picis liq. 10, natri sulpho-ichthyol or sulphur. præcip. 5, cretæ 20, adipis 250. Later on, sulphur præcip., naphtali, *ana* 5, zinc. oxid. gelatin., adipis, *ana* 10, glycerin. 75. Or picis liq. 10, natri sulpho-ichthyol 5, zinc. oxid., gelatin., adipis *ana* 20, glycerin. 125. Evening perspirations produced by pilocarpine are useful; as also are sulpho-alkaline baths. Arsenic is of secondary importance; it is, however, mostly indicated in the papular eczemas of older children with anæmic skins.—*Deutsche Med. Zeit.*—*Med. Chronicle.*

## THE USE OF MERCURIC CHLORIDE IN CHILDBED.

It is about eighteen months since corrosive sublimate began to be freely used in Germany as a disinfectant in childbed, and very numerous reports concerning it have been published in the German journals, and the evidence thus accumulated is enough to enable us to come to some conclusions concerning the value of the method. There have been various objections urged against the use of corrosive sublimate as a puerperal disinfectant, but of these objections there are only two of sufficient moment to be considered. The first of these is the danger of poisoning of attendants or of the sick by the improper use of the solution through mistake. The colorlessness of the solution is, of course, the great source of danger. It can be obviated by adding five grains of the permanganate of potassium or one drop of a concentrated solution of methyl violet to every quart of the mercurial solution. A second objection is the danger of poisoning the patient by the absorption of the metallic salt. All cases of such corrosive sublimate poisoning may be divided into three groups—those in which the symptoms are mild, those in which they are severe, but in which the patient recovers, and those in which death ensues. In mild cases the manifestation of the poisoning consists in a little diarrhœa, with perhaps some paleness or gray color of the gums, and which is readily controlled by a few doses of opium.

So far as our reading goes, there have been reported six cases of fatal poisoning, namely, one each by Stadfeldt (*Centralb. f. Gyn.*, 1884, No. 7), Lomer (*ibid.*, No. 14), Winter (*ibid.*, No. 28), Vohtz (*Hospitals Tidenden*, 1884, No. 22), Schwarz (cited by Thorn, *Klin. Vorträger*, No. 250), Thorn (*Klin. Vorträger*, No. 250). The symptoms have been remarkably uniform. There first appears abdominal pain, with tenesmus and diarrhœa ; the discharges, in all cases, sooner or later becoming bloody. Vomiting usually comes on early, and there has also been almost uniformly a violent stomatitis. Great restlessness and anxiety have been prominent, and universally suppression of the urine has taken place before the fatal results which have occurred from collapse. The continuance of the symptoms has been from three to twelve days. Where a post-mortem has been obtained, inflammation and ulceration of the intestines, especially the large intestine, have been found. The peculiar degeneration of the renal epithelium, with a deposit of phosphate in the kidneys, which has been shown by Salkowsky and by Prevost to occur in dogs and rabbits poisoned with corrosive sublimate, was noticed in the case reported by Stadfeldt.

In the case reported by Thorn septic peritonitis was found at the autopsy, and it is very doubtful whether death was produced by the corrosive sublimate, especially as the patient died in coma ten days after the use of the poison. In five of the cases intra-uterine irrigation had been practised ; in three of these the strength of the solution was one part in a thousand ; in one, one in seven hundred and fifty. The only case in which vaginal injections alone had been employed is that of Thorn, already spoken of, in which the cause of death remains doubtful.

Of the severe but non-fatal class of cases four instances have been reported, one each by Stenger (*Centralb. f. Gynk.*, 1884, No. 13)› Maurer (*ibid.*, No. 17), Elsasser (*ibid.*, No. 29), Thorn (*loc. cit.*) In two of these cases only vaginal irrigation was practised. In about 12 quarts of the solution (one part in a thousand) were used. In a second case, 500 grammes, or only 1 pint of the solution of the strength of one part in two thousand, was injected. In a third case, that of Elsasser, besides the twice-a-day use of the uterine irrigation with a one per thousand solution, 30 grammes of blue ointment were used externally, and about 18 grains of calomel internally. Poisoning came on the fourteenth day, ending in recovery after an illness of many weeks.

In order to determine the percentage of bad results by the use of the corrosive sublimate, it is essential to know the number of times which it has been injected. This, of course, cannot be accurately done, but in the *Deutsche Med. Zeitung*, May 18, 1885, Dr. K. Jaffé has collected ten thousand nine hundred and eighty reported cases of childbirth in which the corrosive sublimate has been employed. When it is remembered that a case of poisoning is almost sure to be reported, and that the great majority of practitioners do not put on record the instances in which they have employed the corrosive sublimate without poisoning, it will be seen that the percentage of poisoning must be very low. It is probably less than one in two thousand cases, the records showing one in eleven hundred cases. Further, when all those cases are removed in which intra-uterine irrigation was practised, the mortality from poisoning falls almost to zero. Moreover, in the first use of a method, the dangers are much greater than when experience has perfected knowledge,

Camillo Furst, in a paper read before the monthly meeting of the Medical Society of Steiermark on April 13, 1885, in summing up the evidence as to the value of the mercurial method, says that "the clinical results of the use of corrosive sublimate in labor are on the average better than the use of any other antiseptic, and that even those authors who have had to complain of cases of severe poisoning, almost universally agree in praise of the method," and in thus saying Dr. Furst formulated the apparently universal opinion of progressive Germany.

After childbirth corrosive sublimate is used for several somewhat different purposes. First, for the disinfection of the nurse and the doctor; second, for the disinfection of instruments; and third, for the disinfection of the patient herself.

The most scrupulous cleanliness on the part of the nurse and the doctor is of the utmost importance, and with the half-trained nurses which abound in the United States, probably the most difficult part of the treatment will be found to be the persistent disinfection of the nurse herself. The hands should be frequently washed (at least as often as they touch the patient) in the solution of the corrosive sublimate, and after the use of the corrosive sublimate, rinsed in warm water, and then washed with soap and warm water. For this purpose the solution of corrosive sublimate may be made one in five hundred. Metallic instruments cannot be disinfected by means of the corrosive sublimate, as they are usually chemically acted upon by it, and for them carbolic acid, or some other disinfectant, is essential. Their use should, however, as far as possible, be discarded in the lying-in room. Hard-rubber catheters, syringes, etc., should be substituted for the old-fashioned implements whenever it is possible.

It is very important to decide as to the strength of the solutions which are to be employed upon the person of the patient. The experiments of Schede (*Die antisept. Wundbehandlung mit Sublimat, Klin. Vortr.*, No. 251, S. 19 u. 35) indicate that the solution of less than one part in two thousand is of very little value as a germicide, and, indeed, that even this solution cannot be relied upon. The conclusion of Jaffé as to the strength of the solution and method of its use upon the parturient woman seems to be a correct one. It is that after ordinary births a simple vaginal irrigation should be practised, with one part of the corrosive sublimate in a thousand of water. Of this solution one pint may be used at a time, at first twice a day, and then once in twenty-four hours. After cases of complicated labor, especially where the hand has been introduced into the uterus, Dr. Jaffé believes that intra-uterine irrigation should be practised with the solution containing one part in two thousand. This irrigation should always be performed by the doctor himself. Not more than a pint and a half of fluid should be used, and especial care should be taken to see that the uterus is thoroughly contracted after the employment of the irrigation, because one of the great dangers of the intra-uterine employment of corrosive sublimate is the remaining of some of the solution in the uterus and its almost inevitable subsequent absorption.

In many cases the intra-uterine irrigation need not be practised more than once, but where there is retention of the placenta or the frequent formation of clots or any tendency to the development of septic symptoms, it must be repeated *pro re rata.*

It must be remembered that most of the cases of poisoning have occurred after the repeated and long-continued use of irrigation, and it is therefore proper to discontinue the employment of the corrosive sublimate so soon as circumstances will permit. When as much as nine pints in all of the solution (one in one thousand) have been employed, even by the vaginal injection, the danger of poisoning becomes a factor to be very carefully considered. Such caution is made more important by the fact that usually the symptoms of mercurial intoxication have appeared with great suddenness.

There are certain conditions of the patient which contraindicate to a greater or less degree the use of corrosive sublimate. The existence of a high degree of anæmia or of general feebleness necessitates great caution. If nephritis, or even albuminuria without casts, has been observed during the pregnancy, much more if it be present at the time of the labor, great care must be exercised in the use of the corrosive sublimate. Almost all the cases of poisoning have ended in suppression of urine. It is certain that the metallic salt is eliminated by the kidneys, and during the process of elimination it must act upon their secreting structure as upon that of the intestinal tract. This is abundantly confirmed by the experiments of Salkowsky and Prevost, as well as by the records of the post-mortem room, which show that corrosive sublimate has an especially irritating influence upon the kidneys. If, therefore, a diseased kidney already exists, the mildest of poisoning with corrosive sublimate is very prone to have a fatal termination.—*Therap. Gazette.*

## ON THE LOCAL ANÆSTHETIC ACTION OF APOMORPHINE.

Ludwig and Bergmeister have experimentally demonstrated that the anæsthetic action of apomorphine equals, as far as the eye is concerned, that of cocaine (*Contralblatt f. d. ges. Therapie*, May, 1885).

After the instillation of a two per cent. solution of crystallized muriate of apomorphine (Merck's preparation) in a quantity 6 to 18 drops, so complete an anæsthesia of the cornea and conjunctiva resulted within ten minutes that irritations of every kind provoked neither response nor any reflex activity. The animals experimented upon were cats, which are well known to react quicker on irritation of cornea or conjunctiva than rabbits-

The anæsthesia lasted usually five to ten minutes. In one case only the animal retained impaired sensibility for one hour.

Applied on man, apomorphine produces a passing, though sufficiently marked injection and pain of the conjunctival sac. Mydriasis always attends the exhibition of this instillation.

Salivation and vomiting were so invariably noted in animals that these untoward effects were regarded as constant attendants of the application of apomorphine.

To summarize the results obtained on man, the drug was found:

(*a*) To render the cornea and conjunctiva anæsthetic within ten minutes after the instillation of 6 to 12 drops of two per cent. solution.

(*b*) To be painful and irritant.

(*c*) To produce moderate mydriasis and marked nausea.

(*d*) To cause xerosis (i. e., diminution of the glandular secretion).

If it be possible to obviate these untoward effects of apomorphine, the drug would be likely to receive a direct therapeutic consideration not unlike cocaine.—*Therapeutic Gazette.*

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## THE LONG-CONTINUED FEVERS OF LOUISIANA THAT RESIST QUININE.

By Rudolph Matas, M.D.—(Abstract.)

The writer, after showing that the following dictum of Nothnagel: "It is an abuse to administer antipyretic agents, especially quinine, in temperatures of 102° and 103°, in the very first day of treatment, when one has as yet no definite idea of the developments which the disease-process will take," adds that this could not be scientifically followed in a malarious region. Quinine is given in Europe as an antithermic, but with us not so much as an antithermic as for its antidotal properties.

A certain percentage of the fevers usually classed malarial in his section (Louisiana) present certain clinical and therapeutic characteristics, which alienate them clinically from the fevers universally recognized as malarial.

"One of the main differential peculiarities of these pyrexiæ is their peculiar behavior to quinine, their absolute indifference to the action of this alkaloid, which, even when most lavishly administered, does not exercise the slightest modifying influence over their course. It is to the study of these fevers which resist quinine that I will now confine myself.

"What are, then, these fevers that resist quinine?

"I will state, to begin with, and I think it is a dictum well sanctioned by experience that *the more continued the type of a fever, the more difficult it is to control by quinine, i. e., the more a fever departs from the typical manifestation of malarial toxæmia—the intermittent type—the more difficult it is to cure by the exhibition of the antiperiodic salt.* Thus it is well known and universally acknowledged, that a remittent fever is much more difficult to control by quinine than a strictly intermittent fever, though we all admit that the mass of the remittent fevers that prevail in our midst can be ultimately arrested, though with some difficulty at times, by the free and vigorous administration of quinine. But there are fevers, and these are not altogether infrequent among us, over which quinine exercises no perceptible influence whatever, and these are the *continued* protracted fevers of typhoidal duration, which are commonly classed as the so-called "continued *malarial* fevers." Why these fevers should be classed as "malarial" I can only understand through the following reasons: 1st. That they prevail in malarial localities. 2d. That they are of a remittent type, and 3d. That they occasionally terminate in intermittent paroxysms. These reasons, however, can readily be disposed of when we consider that, as regards the first two, they apply as well to other conditions, which are certainly not malarial, viz: typhoid fever; and as to the third reason, we all know that any fever may be complicated with the malarial poison, which, remaining latent in the presence of a more powerful intoxicant, will manifest itself vigorously when its more potent rival has exhausted itself. When shorn, therefore, of these defenses, the argument that these continued fevers are of malarial causation, loses all its weight, and these peculiar febrile states stand, if not as independent and well characterized morbid entities, at least as fevers which are so far removed from the common type that they can be classed as non-malarial pyrexiæ.

"But if these continued fevers which resist quinine are not malarial, what are they?

"Before attempting to answer this question let us first glance over the list of the continued fevers which prevail in our midst and that are recognized among us as fevers which resist, to a greater or less degree, the antipyretic influence of quinine.

"I believe that in the order of rebelliousness we may place them as follows:

"1. yellow fever. 3. Typhoid fever.' 3. Dengue. 4. Typho-malarial fever, so-called. 5. The so-called continued malarial fever. 6. Simple continued or ardent fever. 7. Malarial remittent, with gastro-hepatic or other organic complications ("bilious fever.")

"This list, I believe, covers pretty thoroughly most of, if not all, the fevers (excepting the puerperal and surgical septic fevers) which are at all liable to be confounded with the strictly malarial fevers, and are the fevers which experience has taught us are not directly or readily controlled by the cinchona alkaloids.

"I need not dwell upon the first three, yellow fever, typhoid fever and dengue, because their non-malarial nature is universally acknowledged. The radical difference between their causative agents and that of malarial being too well appreciated to require an explanation of the inutility of the anti-periodic salt in their treatment.

"Neither will it be necessary to detain you with a discussion of the so-called typho-malarial fever. If we accept the opinion now held by the most enlightened observers, that it is simply typhoid fever with malarial complications, then it is plain that quinine will only benefit the patients suffering with this fever insomuch as the malarial element complicating the case will be eliminated and the typhoid poison allowed to afflict its victim unassisted.

"If we also admit that there are numerous cases of remittent malarial fever that are characterized by great adynamia which closely simulates the typhoid state, then we need not class this species of fever as one of those which are not controlled by quinine, but simply as an ataxic remittent malarial fever, as it is certain that the alkaloid will be beneficial as an antipyretic in its treatment. Abundant experience testifies to this, and the observations of our most authorized practitioners prove conclusively that such cases are readily subjugated by the specific remedy when the ataxia is properly corrected by a stimulating and analeptic therapeusis.

"As it is evident, also, that the form of malarial remittent, which is commonly known as "bilious fever," is a fever which is complicated with marked catarrhal and even inflammatory derangements of the gastro-hepatic function as manifested by the "bilious vomiting" and icteroid tinge which distinguishes it. I need not dilate upon the reasons why this fever is not readily controlled by quinine.

"This fever is uncomplicated with the lesions referred to would be nothing more than a simple remittent malarial fever which would succumb to the antidotal effect of the cinchona salts as any other uncomplicated remittent would.

"Having said this much, we have now only left to consider the fifth and sixth species of fever marked in our list, i. e., the so-called "continued malarial" and the simple continued fevers.

"These two fevers, I believe, are in many instances due to one and the same cause, and this cause is *not* the malarial poison. These fevers, though commonly of long duration—three, four and five weeks sometimes, are the purest type of the essential fever that has ever come under my observation. They are conditions in which the only abnormality lies in the excessive heat disturbance. Fever is the sole cause of anxiety and the consequences of excessive physiological combustion the only complications.

"It is to this fever that I would especially direct your attention. It is a form of fever which extensively prevails in our midst in summer, and is commonly styled either "continued malarial fever," "typhoid fever," or even "typho-malarial fever," whenever the practitioner is hard pressed for a diagnosis; these various appellations being given to it simply to account satisfactorily to the laity for the protracted duration of the sickness, and not because there is anything much of the malarial and much less of the typhoid about its clinical history to account for such misguiding appellations. In this fever quinine is absolutely as valueless as it is in pure yellow fever or typhoid fever. I have given this salt faithfully in every case that I have had occasion to treat, first as an anti-periodic or specific remedy to test the relations of the condition to malaria, and have in each instance failed to produce any marked impression. I have then continued the administration of the alkaloid simply as an antithermic, and in this, after the most faithful trial, I could not have been more disappointed. as almost any other antithermic remedy has been far more effective and beneficial to the patient."

Dr. Matas quotes at length a lecture by Dr. John Guiteras, M.H.S.*, who describes this fever, calling it *continued thermic fever of the tropics*, and continues :

"The differential points between this fever and typhoid are well summed up by Dr. Guiteras. Typhoid fever is found in America, at least, with diminishing frequency as we descend toward the tropics. Its existence in these regions has been denied. The late lamented Dr. Faget was well known as a vigorous upholder of the opinion that typhoid fever did not and had never existed in New Orleans. He claimed that during his professional life, which covered an extensive experience of over forty years of medical observation in this city, he had never seen a case of the disease. Contrary to his dictum, however, we have seen and carefully studied one case which apparently originated in this city, in which the intestinal lesions found post mortem, confirmed, without a doubt, the typhoid nature of the case. At a very recent meeting of the New Orleans Pathological Society, Dr. McShane exhibited sections of typical Peyerian ulcerations from a case that died in the hospital. But this case was imported. It must be admitted, therefore, that *typical* enteric fever is a rare disease in New Orleans.

"We have been taught that the outbreaks of typhoid are generally circumscribed to houses or groups of houses, and that they are traceable to contamination of the air or water supply. The epidemics of Havana have been governed by these same laws of propagation. The cases which occurred in Tampa last year (1883) were all traceable to the drinking of well water. There was no such common factor in the etiology of our cases in Key West. [In this particular New Orleans is very much like Key West. The universal use of rain water collected in cisterns precluding the liability which its inhabitants would incur from sewage contamination.] The water used by the majority of our patients [who suffered with this continued thermic fever] was cistern water. [This was certainly the case with our New Orleans patients]. They were frequently moved from one dwelling to another, without ever starting new foci of infection. All the cases, with one single exception, were isolated, and they occurred in every section of the city. The exception was met with in a family consisting of the mother and five daughters. Only two of the latter escaped. But in the immediate neighborhood amongst persons who used the same water, and who actuully lived in the same house waiting upon the sick, not one was affected. These cases were moved to another house, with the following results: Continued convalescence of the mother after fifty-four days of fever, improvement and recovery of two of the daughters, one with fever of two days duration and the other four. The third was one of the few fatal cases. The one common factor to this family, and to most of the severe cases of the fever was that they were sickly, over-worked factory hands, living in hothouses, frequently exposed to the sun, or persons in some way especially subject to the exhausting influences of the summer. Hardy laborers who were much exposed to direct solar heat were not prone to contract the disease."

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* Therapeutic Gazette, March 10, 1885.

"The other factor common to the majority of these cases was the previous existence of some slight ailment, such as bronchial or intestiaal catarrh, the disturbances of dentition, worms, sore throat, or a slight attack of intermittent fever contracted outside of the island."

"I am able to corroborate Dr. Guiteras' statements in every particular. My worst cases have been in persons who lived in very prostrating circumstances, one a cigar-roller, a young man of 18, worked in a crowded factory, where it may be said that all the workmen coughed from the bronchitis produced by tobacco dust and smoke; his fever lasted over five weeks. The second was a bootblack, a light mulatto, who polished shoes almost constantly on the hot sidewalks of our thoroughfares, during the most heated hours of the day; he suffered with fever for over two weeks. A third case was that of a young boy employed in a printing-office, and exposed to the heat of the engine; his case lasted a full month. A fourth was a young Irishman, who had been much over-worked during the winter, and who fell ill with a fever of three weeks duration in the early part of summer.

"Let us now pass on to a consideration of the seasons of the year in which these cases prevail. 'Typhoid fever prevails during the autumn months, and continues through the winter. The typhoid fever prevails in Key West during the summer, and more surely even than yellow fever it vanishes with the first norther, after reaching its maximum towards the end of summer.' In this statement I believe Dr. Guiteras is too positive; though it is unquestionable that the majority of the fevers that resist quinine of this class prevail here in summer, I am sure that I have seen at least two typical cases of this continued fever described by the doctor in the course of last winter.

"Having considered, thus far, the reasons which lead us to believe that the continued fever under consideration is not typhoid fever, let us now stop to consider what is more important to us, viz: the differences which separate it from the malarial fevers. In the beginning we stated our principal reason for not believing in a strictly malarial etiology, and that was the absolute utility of quinine in the treatment of this condition. This is the capital fact which immediately strikes the practitioner in the treatment of this pyrexia, and it is the one which at once arouses his suspicions as to the nature of the case.

"The casual relationship between malarial remittent and intermittent fevers has often been, and is still questioned by many, but it is undeniable that a large majority of the remittent fevers that prevail in malarious localities are controlled by a vigorous antiperiodic (quininic) medication, and I am satisfied that it is in the identity of therapeutic results that the accepted belief in their common causation is mainly based. Neither can it be denied that many cases of remittent fever, which could readily be subjugated by quinine, are unaffected by this salt when organic complications of an inflammatory character intervene in their course. But in the fevers under consideration the thermic movement is the only manifest trouble; they are typical *essential* fevers; there are no gastro-hepatic disturbances, no jaundice nor bilious vomiting, no enlargement of the spleen, none of the complications, in fact, which so often characterize the malarial remittent and which find so apt a designation in the expression, "*bilious fever*." Finally, these fevers are not followed by the cachexia left behind by the malarial remittents, and the convalescence, though slow, is usually complete and uncomplicated.

"The difficulty in the way of a complete differentiation between these fevers, and, in fact, between all the continued fevers which prevail in malarious localities and those of strictly malarial etiology, lies in the want of a definite clinical test. Periodicity is certainly not a criterion, as all the continued fevers are, to a greater or less extent, periodic in the oscillations of their thermic movement. The microscopic test, i. e., the disintegration of the red cells, their crenated aspect, and excess of pigment matter in the shape of melanhæmic corpuscles, is also unreliable, because these histological changes are almost solely the accompaniments of the chronic forms of malarial intermittent toxæmia—the paludal cachexy, the identity of which is never questioned. This test is, indeed, useless, as in the very forms of fever in which a differential diagnosis is most wanted the hæmatic changes are not at all pronounced. Dr. Guiteras examined the blood of cases of Chagres fever, which is everywhere admitted to be a malarial fever, and which readily submits to antiperiodic treatment, and found no changes whatever in the morphological constitution of the blood. He also examined the blood of patients affected with the continued thermic fever that we have just described, and found in it "nothing abnormal." Perhaps the inoculations which Gerhardt, Mariotti and Ciarrochi have recently performed in Italy with intermittent fever blood may open the way to the application of a test by inoculation somewhat in the manner of the tests which syphilographers apply to differentiate chancre from chancroid ; but first of all it will have to be proven that malarial blood is really inoculable.

"But I think that for practical purposes we have a ready and good test in the therapeutic properties of quinine.

"It is only fair to assume that if the poison of remittent is identical with the poison of intermittent fever, that the antidote for one ought to be the antidote for the other. And this assumption is well sustained by the facts of experience, which tells us that some remittent fevers are cured, or, at least, abbreviated by quinine.

"It is natural, therefore, that we should conclude that whenever the reagent (quinine) fails to produce the customary reaction (cessation of the toxic phenomena), that the poison is a different one. For this reason, and with a due appreciation of the influence of complications in interfering with the test power of quinine, I have come to the conclusion that when any essential fever (i. e., a fever free from organic complications) is not affected or controlled by the thorough and systematic administration of the salts of quinine, that it is not a malarial fever.

"For this reason, mainly, I believe that the continued fever which I have described is not a malarial fever. As to its nature, I must confess it is problematical, but I believe that the opinion which has been emitted by Guiteras in respect to it is perhaps the most satisfactory, though they are strong objections to it which I have stated elsewhere.

"Guiteras says: 'In vigorous persons, who are often exposed to the direct heat of the sun, I believe that the inhibitory apparatus is kept in a healthful, vigorous training by the habitual demands made upon its functional activity. But in the sickly and overworked, it is my opinion that an exhaustion of these controlling centres is brought about, which gives rise to the fever. Hence it is that I have designated these cases by the name of thermic fever, proposed by H. C. Wood, for the accurate variety of the affection.'"

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### REMARKS ON ANTITHERMIC TREATMENT.

"A review of the treatment of the long-continued fever which is especially discussed in the present paper, has not been added for fear of expressing premature opinions on the value of recent and undoubtedly potent antithermic agents which I have tried lately with gratifying results in six cases, but in regard to which my personal experience is yet too limited to permit me to deduce general and trustworthy conclusions.

"It is now over four years since I began the administration of sodium salicylate in fever practice as a succedaneum to quinine, whenever this salt failed to act antithermically, and since that time I have constantly resorted to it, often with astonishing success in all continued fever cases, and particularly in yellow fever.

"Since the introduction of kairin (by Fischer and Filehne) and antipyrin (by Knorr, Filehne, Penzoldt and Sartorius) I have resorted to these drugs, and, though my experience with them has been limited to nine fever cases, six of which were of this long-continued type, I have met with such striking and uniform success in lowering hyperthermic fever, that I am almost prompted to state that these agents are the most potent antipyretics in the materia medica.

"I have observed several cases in which sodium salicylate had failed to produce an impression, and in which antipyrin repeatedly succeeded in bringing down very high temperatures to almost the normal degree.

"In my experience, which is confirmatory of that of most observers who have studied this drug, antipyrin is preferable to kairin, the latter drug often giving rise to gastric disturbances, nausea, vomiting, etc.

"Antipyrin, as a rule, is well borne and lowers temperature more gradually and permanently than kairin. Its effects, in all my cases, have been far less disagreeable than quinine, the patients usually taking the drug very readily in capsules.

"In the treatment of fever in children who are unable to swallow capsules, or to whom the administration of a liquid solution of antipyrin would be troublesome, the exhibition of this compound by enema is very efficacious, the rectum usually retaining the solution far better than quinine, which is often rejected on account of the irritant character of its acid solution.

"In cases in which there is great prostration, and particularly a weak pulse, the practitioner should be wary as to the doses in which he employs these antipyretics. Thus far all observers express a belief in the benignity of the physiological action of antipyrin, but the recent report of a death supposed to be due to the free administration of antipyrin should make us careful. I believe, however, that in doses of five, ten, fifteen, and even twenty grains, it will never exercise any detrimental action.

"I have given it quite freely in some recent cases, and not the slightest depressing effect have I observed on the pulse.

"In three cases of long-continued fever which I have had under my charge since January, the medicinal (antithermic) plan of treatment adopted was as follows: In the beginning, when the diagnosis was uncertain, and simple malarial remittent was suspected, quinine was given largely and freely—20, 30 and 40 grains a day. When, after the thorough production of cinchonism, no effect was noticeable on the temperature, sodium salicylate was administered in the following manner:

| | | |
|---|---|---|
| ℞. | Sodii. salicylatis | ʒ ii. |
| | Syr. papaveris | ℥ i. |
| | Syr. aurant. flor. | ℥ i. |
| | Aquæ q. s. ad. | ℥ vi. |

"S., one tablespoonful of this mixture every hour, whenever the temperature rises above 102°. If any cardiac prostration manifested itself by excessive frequency and irritability of pulse, two drachms of tinct. of digitalis were added to the solution.

"The reason for administering the salicylate only when the temperature is above 102° F., is based on the observation that sodium salicylate appears to lower only high temperatures. A fever of 104° and 105° is much more quickly diminished by the salicylate than would be a fever in which the thermometer registered only 102° or less.

"There are some cases in which the salicylate appears to lose its antithermic potency, and particularly when dealing with these long-continued fevers. In such cases antipyrin (if I am to judge by my recent experience) will rarely, if ever, fail in reducing the fever. I usually prescribe it in capsules, viz:

℞. Antipyrin gr. xxx.

Ft. in caps. No. XV.

"S., two capsules every half hour until ten are taken, remaining five at an hour's interval.

"The temperature will almost invariably fall *pari passu* with the administration of the drug.

"With these three agents, viz: sodium salicylate, kairin, antipyrin (and perhaps also the still more recent thallin which I have not yet tried), the practitioner is fully and powerfully prepared to encounter excessive thermic movements.

"Of course, it should be well understood that, while claiming for these agents real and most efficient antithermic properties, I do not believe that they do in any manner abbreviate the course of a fever; they are not specific remedies, such as quinine is for the malarial poison—they are simply heat regulators, and as such are agents of priceless value at certain periods in the career of these long-fever cases. I simply recommend them here as a basis for a *medicinal* antithermic therapeusis in cases where quinine is impotent as an antipyretic.

"Whenever the practitioner is allowed to apply the cold bath I would apply the method which Dr. Guiteras has found so efficient in Key West. But I fear that the marked prejudice which exists in our population against the cold bath in fever would allow but a very limited and unsatisfactory application of the methods of Brande and of Leibermeister.

"Sponging of the surface with dilute *eau sédative* vinegar, etc., are not objected to in this locality, and consequently can be adopted with advantage to the patients.

"Finally, whilst advocating a vigilant and active antithermic treatment, I would not, in any manner, depreciate or underestimate the importance of constant alimentation, stimulation and all the various auxiliary measures comprised in good nursing. This is as important in the long tissue-wasting thermic fever of this section as in the more dreaded and devastating typhoid fever.

"Symptomatic remedies and other accessory measures of treatment are not mentioned, as they will readily suggest themselves to any educated practitioner whenever indications for their use present themselves."

# OFFICIAL REPORT OF THE PROCEEDINGS OF THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA, IN MEETING AT RALEIGH, AUGUST 24TH, AND ASHEVILLE AUGUST 26-27, 1885.

RALEIGH, N. C., August 24, 1885.

In compliance with instructions, a called meeting of the Board of Medical Examiners of the State of North Carolina was held this day at the Yarboro House. Present, Drs. Wm. R. Wood, P. L. Murphy, James A. Reagan, F. Duffy, A. W. Knox and W. J. H. Bellamy.

The following 13 applicants were granted license, viz: John Wesley Speight, Hertford; Leonard Gaston Broughton, Barnes' Store; Jesse Burbage Lucas, Harrell's Store; George William Lewis, Nashville; F. W. Lowry, Newbegun Creek; Chas. Vaten Broughton, Wilson; James Franklin Beall, Linwood; Alexander Bulla, Jackson Hill; William H. Bagwell, Pactolus; Alexander H. Robbins, Phœnix; Edward Chancey Register, Enochville; Abner Tillman Cooper, Clinton; Eugene Middleton Littlejohn, Warrenton.

Three applicants were refused license.

The Board then adjourned, to meet in Asheville on the 27th and 28th August.

ASHEVILLE, N. C., August 27, 1885.

The Board met at 8 A. M., and on motion a committee composed of Drs. Murphy, Knox and Duffy was appointed to draft rules for the government of the Board, to report in Newbern in May next.

The following 22 applicants were granted license: Jere Robert Pearsall, Morganton; Will Parsons Ivey, Sherrill's Ford; McCamie Wilson Gibson, Statesville; Rufus Leonidas Allen, Waynesville; James Robert Anderson, Lowesville; Benjamin Robert Killian, Taylorsville; George Doughton, Sparta; Jordan B. Phillips, Sugar Loaf; Jacob Carson Tilson, Grape Vine; John William Patton, Murphy; Jacob Forney Abernathy, Murphy; James Henry Teague, Quallatown; Aurelius McDonald Bennett, Quallatown; Isaac Arthur Harriss, Flat Creek; Joe Hill, Arcadia; Alfred Abraham Kent, Lenoir; John Robert Straw, Jefferson; Charles Spratt Rozzelle, Denver; Jefferson Bostwick Councill, Boone; Joseph Howell Way, Asheville; Thomas Beatty Lovelace, Forest City; Guilford Eves Young, Forest City.

The following named 7 applicants were allowed to withdraw their application for license: William John Hughes, Leicester; Augustus Clingman Boyles, Keeversville; Elijah Fillmore Bingham, Watauga Falls; Hannibal McD. Little, Taylorsville; John C. B. Justice, Asheville; James Oliver Fore, Ogreta; James Moses Clark, Leicester.

Eight applicants were refused license.

In Raleigh and Asheville there was a total of 53 applicants, of whom 35 were granted license, 11 were refused, and 7 were allowed to withdraw.

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EXTIRPATION OF THE LARYNX has been recently successfully performed. One case by Dr. Leon Labbé (March 28), and another by Dr. Azio Caselli (April 18). In the case of Dr. Labbé the operation was rendered necessary by reason of a spindle-celled sarcoma springing from the left venticle of the larynx; that of Caselli for an epithelioma of pharynx and larynx. In Dr. Labbé's case deglutition was natural in two months, and in Dr. Caselli's by the aid of an artificial larynx the patient could speak, eat and drink.

# REVIEWS AND BOOK NOTICES.

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ILLUSTRATIONS OF CLINICAL SURGERY. By JONATHAN HUTCHINSON, F.R.S.

We have noticed from time to time this very choice work, and have been surprised that it has found its way into so few private libraries. Since the days of Robert Carswell's superb work nothing like it has issued from the English press. This is the 7th Fasciculus of the 2d volume, and the work, we learn, is about to close.

The author set for himself the task of reproducing from his private portfolios cases of rather unusual occurrence, illustrating his practice in surgery and diseases of the skin, without observing any sequence of subjects, selecting always subjects which bear directly on important points of diagnosis and treatment.

The last fasciculus and the present together give four plates illustrating fractures of the femur—plate lxiii giving four lithographic drawings of extra-capsular fractures.

The second subject or order in this fasciculus is a chromolithographic description of Lupus of the mucous membranes, two figures representing the very rare form of lupus of the gums and lupus-ulceration of the hard-palate and gums. The next plate gives two chromolithographic figures of superficial forms of rodent cancer. By far the most interesting portion of this fasciculus is the representation of chancres in unusual positions—the fingers, the eye, the tongue—all representations of *syphilis sine coitu,* venereal sore, which physicians frequently run the risk of contracting. Mr. Hutchinson says in regard to them: "An infecting chancre on the finger may never show anything more than a small dusky spot, not ulcerated, not attracting attention for more than a few weeks, and leaving nothing but a little brown stain. Yet, after such a sore, there may be a full development of syphilis. On the other hand, there may be such an excess of inflammatory action that all trace of specific induration may be concealed. The chancre itself may, in some cases, spread very widely. Thus I have known a case in which an indurated sore, by no means phagedænic, included nearly the whole of the palm of the hand, and another, in which nearly the whole side of the face was involved. As regards position, these sores may occur on any part of the body. * * * The midwifery chancre is a form from which medical men suffer most severely, and it assumes a great additional importance from the risk there is of conveying it to their patients. * * * Amongst the more infrequent positions, I may mention that I have seen a primary sore in the middle of the sole of the foot, on the ear, on the nose and on the skin of the chin at some distance from the lip. I have three times seen them on the tongue, twice on the tonsil, and once on the conjunctiva of the eye-ball. The two which occurred on the tonsil was explained, one by the patient having put the nozle of an infant's feeding bottle into his mouth, whilst in the other a surgeon believed that he had received a splash of liquor amnii into his face and mouth. * * * The stories we so often hear as to infection at water-closets, etc., are, I doubt not, in exceptional cases, really true."

The cost of these volumes, unbound, when completed, will be about $50, but as each fasciculus can be bought separately, the outlay will scarcely be felt by those who have purchased them as they were issued from the press.

ON RENAL AND URINARY AFFECTIONS. By W. HOWSHIP DICKINSON, M.D., Cantab., F.R.C.P. Miscellaneous Affections of the Kidneys and Urine. New York: Wm. Wood & Co., 1885. Pp. 343.

This is the August instalment of Wood's Library, and the publishers announce that in order to reduce the size of the volume they have omitted the large number of cases cited in detail in the English edition.

This volume presents the whole subject of diseases of the kidneys in such a thorough and earnest manner as to impress the reader that he is drawing from his practical knowledge.

One subject especially will interest those of our readers who have had to treat hæmorrhagic malarial fever; we refer to the chapter on *Intermittent Hœmaturia or Hœmoglobinuria.* As it will serve to show the powers of analysis and description of the entire work, we quote at length from a pathological examination of a patient who died with intermittent hæmaturia under the care of Dr. Dickinson.

"The particulars may be condensed into the statement that there was intense injection, particularly about the junction of the cones and cortex, and several evidences of extravasation, the most marked of which was an interstitial mass of blood, of irregular shape, three or four times the diameter of a malphighian body. The extravasations appeared to be chiefly of arterial origin and to consist mainly of corpuscles, but in part of granular matter, apparently the result of their disintegration. I shall place next an instance in which death occurred two months after the cessation of a severe and long-continued hemorrhage of the kind in question, which was sequent upon malarial fever. Extravasations were found in many parts, whether connected with intermittent hæmaturia, or directly with malaria; there were corpuscular extravasations in the liver and a preposterous quantity of blood-pigment in the spleen. The kidneys were marked by intense injection, and contained minute extravasations in connection with the cones and cortices; the most striking of which surrounded a malphighian body. The extravasations appeared to be wholly corpuscular, both of red and white. There were evidences of tubal and interstitial nephritis, and the tubes contained granules of blood-pigment. Together with these facts I must revert to the remarkable case of congestive nephritis related in an earlier part of this work, which presumably took its origin in the intermittent condition, though the clinical evidence was not complete on this point. The kidneys were not only intensely congested, but both had burst their capsules, with much superficial extravasation—an exceptional result of renal disease, which cannot but point to a connection between that case and those more recently addressed. In this case, in addition to the tubal and interstitial results of acute nephritis, many of the tubes were lined with black, granular matter, evidently blood, for the most part, though not entirely deprived of its corpuscular shape.

Since these cases have occurred several other post-mortem examinations have been recorded, but none which throw any light upon the disease. We owe to Prof. Murie, of Bologna, one upon a patient also syphilitic, who died apparently of tuberculosis seven months after his last attack of hæmoglobinuria. There was general miliary tuberculosis. The kidneys were of unequal size; the left natural to the naked eye, excepting a few tubercles, the right hyperæmic, and with an increased cortex. Upon microscopic examination, besides the tubercles which were present in both, it was found that the interstitial tissue was increased, the epithelium in some parts of the cortex swollen and detached, and collections of yellow and black pigment seen in the cortical tubes.

Taking these cases together, with the perfectly natural action of the kidney often observed during life in the intervals of the attacks, we may *conclude that no permanent or structural change, either of the kidney or of any other organ, is necessarily involved in the disorder.* But at the same time interest must necessarily attach to the extravasations which were found in three cases, if the third, in which the capsules were thus ruptured, may—of which there seems but little doubt—be reckoned as of the same nature, and to the remarkable and intense injection which was uniformly observed when the hæmaturia was of recent date. We thus may regard intense renal hyperæmia frequently accompanied with extravasation as the immediate result of the attack, while tubal catarrh, interstitial overgrowth and chronic fibrosis are to be traced as sometimes consequent upon it, due probably to the repeated congestion which the disease involves. The renal changes, essentially consisting of hyperæmia, which is usually transient, are consistent with the belief that the disorder is primarily of the blood, the kidneys affected only as the channels of elimination.

With the facts now before us, we may take a general view of the phenomena of the disease. They have been differently interpreted. Dr. George Harley was led, by the jaundiced appearance, to infer that the attacks were in some way connected with disturbance of the hepatic function. I ventured at the same time to attribute the symptoms to a disintegration of blood-corpuscles within their proper vessels, and the subsequent discharge of the débris by the kidneys, rather than to any hepatic or primarily renal change. The view which thus presented itself nearly twenty years ago has now found general acceptance. Sir W. Gull held that whatever the primary change might be, there was at least good evidence that the kidneys were affected, and adduced in an instance of the renal source of the disorder the case of a lady who passed the urine characteristic of it in consequence of having received an injury to the loins, Dr. Greenhow, the next commentator, used the term dyscrasia in connection with the disorder, and while admitting the evidences of renal congestion during the attack, which are sufficiently obvious, accepted the view which placed the essential change in the blood.

Dr. Stephen Mackenzie, to whom we are indebted for an able and comprehensive paper on the disease, though formerly he thought that the corpuscular destruction occurred in the kidney, has found himself unable to resist the accumulated evidence that it takes place in the general circulation. And that it is here would seem now beyond doubt, since the products of the corpuscular dissolution, hæmoglobin, and, according to Murie, granular matter, have been found in the serum or liquor sanguinis. In what system of vessels the destruction takes place may be less certain than the fact of its occurrence, but it has been supposed, with probability, to come to pass in the parts of the body, chiefly the extremities, the blueness and coldness of which mark the outset of the attack. In these regions of local cyanosis, from which Prof. Murie infers that the arterial blood is shut by a spasmodic vascular action, he supposes that the corpuscles are broken down by the combined action of cold and carbonic acid, to be eventually eliminated by the kidneys.

It has been often observed that a feeling of general illness precedes any urinary change, any lumbar pain or renal symptoms. The rigor probably marks the time of contamination. A rigor, says John Hunter, is commonly the first symptom of a constitutional affection. And whether the poison be febrile or septic, the truth expressed is one of daily experience. The change in the urine is subsequent, and probably due to an escape by the kidneys of the morbid product. Dissolved or broken-up corpuscles cast loose into the circulation may easily account for the tinting of the skin, as if by hæmatin; and also for the articular effusions, presumptively of blood or blood substance, which were observed, as if the blood-waste had sought other exits besides the renal. That the kidneys become congested, sometimes intensely so, under the process, is evidenced by the lumbar pain, the retraction of the testicles, and the other passing signs of irritation which they manifest; there is even the suggestion, to which I need not again recur, that they may become congested to bursting or fatally inflamed under the disturbance. But it is clear that whatever happens to the kidneys kidneys is consequent upon the disorder, not antecedent to it. *The natural action of these organs in the intervals, and the post-mortem evidence which we have, are sufficient to show that their change of function is due to passing circumstances, not to permanent change.*"

POISONS—THEIR EFFECTS AND DETECTION—A MANUAL FOR THE USE OF ANALYTICAL CHEMISTS AND EXPERTS. By ALEXANDER WYNTER BLYTH, M.R.C.S., F.C.S'. Vol. II. William Wood & Co., 56 & 58 La Fayette Place. New York, 1885.

We noticed the first volume of this work in the August JOURNAL, and further acquaintance with it now in this completed form justifies the favorable comments we made of it.

The author quotes Dr. Richardson, of Philadelphia, to the effect that human blood may be distinguished from that of other animals by using a very high-power magnifying instrument, and taking much trouble an expert can satisfactorily identify drops of blood from different animals—such as the sheep, horse, goat, dog, cat, etc., all fresh at hand for comparison, *if the human blood is normal.* The author adds, though, that when we come to the blood of persons suffering from disease, there are changes in the diameter, and even the form of the corpuscles which much complicate the matter, * * * and he would be bold who should venture any definite conclusion as to whether the blood was certainly human, more especially if he had to give evidence in a criminal case. One of the means for the determination of the nature of blood when a few milligramms of it can be had, is greatly neglected, viz: the estimation of the relative amounts of potassium and sodium in the blood of man as compared with that of the blood of domestic animals. In the blood of the cow, sheep, fowl, pig and horse the sodium very much exceeds the potassium in the ash—in the cow, as 1 : 8; in the fowl, as 1 : 16—while the same substances in the human blood are sometimes equal, and vary from 1 : 1 to 1 : 4 as extremes. (P. 620.)

An appendix is added, which gives treatment by antidotes or otherwise of cases of poisoning. The poisons and antidotes are printed in conspicuous heavy-face type to catch the eye, and is well adapted for immediate use in times of flurry incident to poisoning. Particular stress is laid upon giving French oil of turpentine for phosphorous poisoning, coupled with the assertion that American and German oils are useless, but we have disproved this as regards the American oil. With these volumes there seems to be no room now for anything further on the subject of toxicology.

YOUNG FOLKS PHYSIOLOGY—OUR BODIES AND HOW WE LIVE. By ALBERT F. BLAISDELL, M.D. Boston: Lee & Shepard, 1885.

SIX LECTURES ON SCHOOL HYGIENE. Delivered under the Auspices of the Massachusetts Emergency and Hygienic Association, to Teachers in Public Schools. Boston: Gwin & Co., 1885.

We deemed it our duty to give an opinion (JOURNAL for July) of a volume selected by the State Board of Education as a text-book upon physiology and hygiene, with special reference to the use of stimulants and narcotics, and now turn with pleasure to two other books, one of which is written for the same purpose as the one we unqualificdly disapproved.

Dr. Blaisdell's little book is not without its faults, but it is successfully done inasmuch as it sets forth in a remarkably few pages (276) a concise description of such parts of the anatomy and physiology of the body as are essential to a proper understanding of the laws of hygiene.

In order to impress the lessons in physiology and hygienics, the author has taken great pains in teaching the pupil how to make such experiments, as can be easily done without any specific outfit, and inexpensively. Thirty pages are devoted to this branch of the subject, and it is space well filled. No class of intelligent pupils could go through the course here prescribed without leaving some substantial principles, in addition to the prime educational advantage of learning how to think.

The temperate but decided tone in which the use of alcoholics and tobacco is treated commends the book most decidedly. We do not encounter any such silly statement as that the child of a drunkard will often inherit *alcoholism*, using the term synonymously for dipsomania.

There is not the least bit of the temperance-lecturer's style in this little volume, and we are pleased to say that we can recommend the description of the influence of tobacco and alcohol on the human body as here given, as being wholesome in language and sound in morals.

The Lectures on School Hygiene are by different authors, as follows: School Hygiene, by Frank Wells, M.D.; Heating and Ventilation, by F. W. Draper, M.D.; The Use and Care of the Eyes, Especially During School Years, by C. H. Williams, M.D.; Epidemics and

Disinfection, by G. B. Shattuck, M.D.; Drainage, by Frank Wells, M.D.; The Relation of Our Public Schools to the Disorders of the Nervous System, by C. F. Folsom, M.D. The subjects are well and plainly treated by gentlemen of experience, and will be a valuable addition to the teachers library. We suppose that the real difficulty with the Board of Education is to get teachers to prepare themselves thoroughly on hygienic subjects, especially where the urgent needs of the day lie in a very different direction. If teachers are to undertake to indoctrinate children in hygienics, they will do well to master the little volumes whose titles we have given, and they will have made a substantial move in the right direction.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE OF THE UNITED STATES ARMY. Vol. IV. HEASTIE—INSFELDT. (Broad-faced type). Washington: Government Printing Office, 1885. Pp. 1051.

Surgeon Billings, in transmitting to the Surgeon-General of the Army his sixth volume of the magnificent work of which he is the compiler, director and editor, enumerates 7,900 author-titles, representing 2,543 titles, 7,250 pamphlets. Of subject-titles 14,590 separate books 35,290 general articles. But figures cannot convey an adequate conception of the immense labor comprehended by them, nor can the labor involved in the preparation of the volume be fully appreciated.

As years pass by, and these volumes are consulted more and more, their value is greatly enhanced. All the books, all the journal articles, all the little contributions which had passed out of the author's memory, are here arrayed (he is fortunate if he can always be proud of them), and the key to many a labarynthine route to an idea or to a great principle in medicine or surgery, is put at once in the searcher's hands. The subject HERNIA comprises 84 double-column pages; HOMŒOPATHY 20; HOSPITALS 96; HYGIENE 118; INSANE and INSANITY 159.

The index to the literature of Hygiene is invaluable. The division of the subjects is into general hygiene, its history and bibliography, hygienic journals, literature prior to 1800 (nearly fourteen columns, surprising to say), manuals and systems of hygiene, teaching of hygiene, therapeutics of hygiene and its relation to medicine, female hygiene, international hygiene, mental hygine and the hygiene of literary men, military hygiene, municipal hygiene, municipal laws and ordinances by localities, rural hygiene, public hygiene, conventions and congresses, public laws and organization, public reports on hygiene, public societies and associations, rural hygiene and veterinary hygiene. We have omitted some of the minor titles in the above enumeration but the value of it cannot fail to be appreciated by the hundreds of young men who are making a study of hygienics.

No country but the United States can boast of such an Index as this, and now, that the building of a fire-proof home for the great library of which this Index is the key, is a fixed fact, the American profession may well rejoice that medical literature has had such distinguished success, and the gratitude of the profession is eminently due for it all to Dr. John S. Billings.

STATE EXAMINATION FOR LICENSE TO PRACTICE.—That our country has produced men who have stood in their day, and those who stand to-day, second to none in their respective departments, is no argument in favor of the non-interference doctrine of the State in professional education, True genius, that is, hard, systematic work, knows no bounds, and will throughout time rank with the great in the profession. But the great mass of the people must depend on the rank and file of the profession for medical services, and here it is not only the right, but the duty of the State to demand a thorough professional education and an independent State examination before the license to practice is granted. When the people have come to comprehend this fact, that their interests lie in a rigidly conducted education, and an independent State standard of qualification, it will not be long before American schools are fully abreast, in all departments, with the very best of Europe. The times are indicative of a gradual awakening of the people to their interests in medical affairs.—*Dr. Conrad George, in his Address before the Alumni Association University of Michigan.*

WE sincerely regret to learn that the contents of the office of the editor of the *New England Medical Monthly* were destroyed by fire, and that much material he had prepared for the Medical History of Connecticut was destroyed. We hope to see our friend fully on his feet again, and, indeed, the issue just after the misfortune gave no evidence that the usual course of his most excellent Journal had been in the least interrupted.

# EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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## THE SPECIAL MEETING OF THE STATE BOARD OF EXAMINERS.

We have previously informed our readers that the Board of Medical Examiners, owing to the large number of doctors to be examined for license, made a special arrangement whereby those who had failed to avail themselves of the provisions of the law could have this extra opportunity to do so. Accordingly a session was held in Raleigh, for the convenience of the doctors in the middle counties, and in Asheville for those of the west.

The Board cannot be too highly commended for their efforts to carry out the law in its full purpose, and as far as they could legally, afford every opportunity to two large sections to conveniently obtain their license.

The official report of the Board may be seen on page 171, and the results may be compared with previous examinations.

The total number of examinations in Raleigh and Asheville was 53, of which 35 were granted license, 11 were refused, and 7 were allowed to withdraw. In estimating the total rejections, the seven allowed to withdraw can rightfully be added to the eleven rejected, as the cause of withdrawal, in most cases, was an early discovery that the candidate was wholly unprepared for an examination.

As was to be expected, the demand of the law upon the profession has created a good deal of inconvenience, but more especially in sections where the persons who called themselves physicians had no other claim to the distinction than the brevet given them by their neigbors, who were willing to permit them to "practice" upon their families. This inconvenience to the people will not last long, and educated men will come in to fill up the vacancies caused by the rejections of the Board, if these gentlemen do not see fit to set about to prepare themselves in accordance with the law. Even if a community should be left entirely without a "doctor" who can guess that blue-mass is composed of aloes and rhubarb,* there would not be any social calamity.

We learn that a considerable number of the applicants were students of only one course, and, in one instance, the applicant had never attended lectures. As far as the elder physicians are concerned, those of them who lived in the remote rural districts twenty-five years ago and longer, it is not remarkable that they should not have had educational facilities, but notwithstandlng this, some of them have developed excellent talents, and are justly eminent in their sections; but for the younger set there is no such excuse, and the law which antagonizes them should be firmly administered. The popular support which the law has received may be estimated by the following facts:

Taking the number of physicians of all kinds in the State at 1,400 (a liberal estimate), and subtracting from this number the legally qualified practitioners, viz: 430, who are members of the State Medical Society, and about 50 who are not, but are licentiates, it would give a remainder of 920. Now, if we look at the number of persons licensed by the Board of Examiners at the three last sessions in 1885, we see that 154 applicants were examined, which is at the rate of about one-sixth of the entire profession. There should be a deduction from the total of 920 (how large we do not know) of legally authorized physicians who are not members of the Society. At any rate, it will be seen by these figures that the day is not far distant when the law will have reached the remotest settlements.

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* An actual occurrence.

One word more: Some practitioners who are pursuing their calling without a license, seem not to be aware that they are guilty of a misdemeanor. It is not as some appear to believe, a matter of optional acquiescence in the law, but an imperative demand, of which it behooves every one to take heed.

## SOMETHING ABOUT SNAKE-ROOT—THE FIRST LEGISLATIVE GRANT FOR A MEDICAL DISCOVERY IN NORTH CAROLINA.

Judging by the list of snake-roots found in the old medical botanies and the new—Curtis naming no less than fifty in his Catalogue of Indigenous Plants—snake-bite antidotes were in great demand. In the Westover Papers* Col. Byrd describes very particularly *Ascyrum Crux-Andreœ*, *Asarabacca* and *Aletris farinosa*, for the cure of the snake-bitten man and beast.

It would seem that the snake-bite antidote was a popular topic in our colonial State, and more of a practical question even than the virus "cultures," which promise so much in these days. And, judging by the occasional offer of a contribution on snake-antidote, and plants reputed as antidotes sent us for botanical diagnosis, we think that the credulity of the people and the profession remains unabated.

Few of our readers, probably, have seen or heard of a book of travels entitled "*A Tour in the United States of America*, by J. F. D. Smyth, Esq.," published in 1784. His "tour" was made while the colonies were in a state of ebullition prior to the revolution, and his travels were confined to the upper tier of counties and as far interiorly as Alamance county. Smyth was a captain in the British army, and speaks of crossing swords with General Nash at Germantown. He was also a very mendacious and ungrateful guest, and very much abused the confidence of the people who entertained him, as his business was evidently that of a British spy. So much by way of introduction, to fix the date of the grant which the "Parliament of North Carolina" made to the first discoverer of an antidote for moccasin bites. Smyth relates the generosity of the "Parliament," and adds, scornfully, that the people, after being apprized of the nature of the great secret preparation, were exceedingly apathetic about using it.

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* Describing the survey for Boundary Line between Virginia and North Carolina, 1733.

It seems that a negro slave had gained the confidence of an over-credulous people by his reputed successes in treating moccasin bites. The mysterious air of Sambo was too impressive to be resisted by the grave law-makers, and a grant was voted of his freedom and £200 if he would divulge it. The historian did not record the incantations and "goofer" by which the lucky negro described his great cure; but the grave assemblage must have been awe-stricken when they were put in possession of the secret that *equal parts of horehound and plantain juice* were the precious remedies. From Sambo to Ferran the succession seems natural, and a cunning insight into human credulity brings more doubloons than ever a life-time of patient toil in the laboratory of a Koch.

## CONTINUED FEVERS OF HOT CLIMATES WHICH DO NOT YIELD TO QUININE.

We trust that our readers will pay special attention to the article in this number by Dr. Matas, on the above subject. He has had good experience in that direction, and some of his ideas will doubtless coincide with the observations of others. We would like to make a short supplement to this paper by calling attention to the fact that in some of the cases of continued fever which resist quinine, there comes a time when a decided quotidian or tertian defervescence gives us the signal for a return to the antiperiodic. A case has just been under the writer's treatment in illustration of this point· A boy of 12, living in a highly malarial atmosphere, was attacked with a chill. The fever assumed the quotidian form for the first week. It then took on the remittent form ranging from 100° to 103°, for four days, and then continued at 101° M. to

101.5° E. for two weeks. Up to the second day of the continued form quinine was given at the rate of 25 grains daily, without making the slightest impression on the fever. For two weeks this slight fever wore its slow way along, until it was observed that during the night of the twenty-eighth day of the sickness the patient had copious sweating, and the fever on the next day was gone. On the afternoon of the twenty-ninth day the temperature rose to 103°, and this condition of things was repeated two days in succession, when by precisely the same dosing with quinine as in the beginning of the fever, the fever was readily cured, and convalescence established. These are some of the freaks which malarial fever play, and the deduction from this case, and many more like it is, there is hope of quinine as long as there is a periodical intermission, and little use for quinine where there are no sharp temperature curves. The one thing to be emphasized is that the thermometer should be carefully scrutinized morning and evening, and we do not hesitate to say that the practitioner who is contented to treat fevers and does not use a thermometer, is groping in the dark, and doing damage to his reputation.

## CERTIFICATES OF STANDING FOR THE USE OF LIFE INSURANCE SOCIETIES.

The editor desires to say that in the future no certificates as to the standing of a brother practitioner will be given unles he requests it or authorizes it to be made to insurance companies. He does not desire to be considered unaccommodating, but the questions asked by some of these companies go very deeply into the private matters. The doctor who certifies for his medical friend is expected to say when and where he graduated, what "school" of practice he adopts, if he is out of debt, if he is honest, if his habits are good, and many other things that no man would make public unless demanded of him by a court of justice. This will be our response to the insurance companies in the future.

# TRACHEOTOMY IN VERY YOUNG INFANTS.

The fact that surgeons who have opened the windpipe several hundred times, look upon this operation as an exceedingly difficult one, is proof that the utmost care is necessary. The danger of wandering from the median line may be partially obviated by having the child's head kept perfectly straight, and by placing the body in exact line with the table. The trachea is sometimes missed because it has not been thoroughly cleared of everything before attempting to open it. The puncture should be made firmly, but guardedly. The size of an infant's trachea will surprise one who has never studied it. Although I have given large and special study to the anatomy of childhood, both from the cadaver and clinically; my first tracheotomy case died on the table before I could insert the tube, my error being in trying to push the canula too far back. Unless the urgency is great, ether should be given in moderate amount, and the operation carefully performed. A plunge into the trachea is never good surgery; in infants it would be worse than folly. If a circular piece is cut from the crico-thyroid membrane and cricoid and a pilot used, introduction will be rendered more easy. In fat necks the windpipe may be brought nearer the surface by extending the head far backward, and by grasping the tube on either side and dragging it forward. If fixed thus in the median line, and retained continuously by an assistant, much time will be gained. In a recent case I found it wiser to go above a large, thyroid body, even in a five-year-old child, and insert the canula in the crico-thyroid space. There was afterwards a slight burying of the upper edge of the plate, owing to its high position, but a strip of sheet lead obviated this difficulty. To arrest the venous hemorrhage, just before puncture, hot water sponges answer admirably. After operation, the temperature of the room should be kept above 80°. I have never opened the larynx to remove a foreign body in a very young child, but the universal habit of making the mouth a general receptacle of everything, makes the introduction of such substances exceedingly probable at from one to two years.—*Dr. De Forrest Willard in Obstetric Gazette.*

# NOTES.

PRESBYKOUSIS is a word coined by Dr. Roosa to signify the deafness of advanced age.

A CORRESPONDENT of the *British Medical Journal* suggests artificial respiration by Silvester's method in the unconscious state of sunstroke, in addition to the usual treatment.

*The Medical Chronicle* of Baltimore has been merged into the *Philadelphia Medical Times*, under joint editorship of Drs. Rohé and Woodbury, and will be continued under the title of *Medical Times.*

IT was thought that the uterus has been attacked from every possible position, and just now it is the turn of the English doctors who, tired out with pessaries, or finding no shape possible that was not preëmpted, have fallen to taking a reef in the round ligaments for correcting malpositions. Although the inventor of this new operation has been calling at the top of his voice for three years, he has not had an echo from Yankeeland—but the Policlinics are in full blast.

DEATH OF MR. HENRY B. PARSONS.—We regret to be called upon to record the death of Mr. Henry B. Parsons, of New York, a member of the Committee of Revision and Publication of the United States Pharmacopœia of 1880. Mr. Parsons' services to the Committee were very valuable. Mr. Parsons died August 21st in Arizona, where he had gone for his health. We believe that this makes the second death since the last general meeting of the Committee.

WE are glad to be able to inform the editor of the *Detroit Lancet*, who gave an analysis of the medical colleges whose candidates were rejected by our State Board of Examiners, that since the pamphlet from which he made the quotations was published, a law has been enacted in this State making it a misdemeanor to practice medicine without a license. The law only excepts those who have a diploma from a regular medical school previous to 1880. The penalty is a fine of not less than $25 nor more than $100, or imprisonment .or each and every offense.

**Terpine and Terpinol.**—Terpine is made by mixing oil of turpentine, alcohol and nitric acid, and by occasional agitation for a month or six weeks, it precipitates in large rhombic crystals. Terpinol is prepared from it. It has recently been employed (*Medical and Surgical Reporter*) in the treatment of bronchitis in elderly people, and as a diuretic, properties which oil of turpentine also possesses. Terpinol is eliminated by the lungs, and gives the odor of jasmine to the breath.

**Errors and Faults.**—The hopeless confusion in our editorial in the August Journal was so palpably an accident in handling the type that it hardly needs explanation, yet we regret it very much. In enumerating from memory the Journals favoring the New Orleans defection, we neglected the *Texas Courier*, *Daniel's Medical Journal* and the *New England Medical Monthly*; but before this shall have seen the light, we trust that it will no longer be a matter of importance who should divide the questionable distinction.

*The Sanitary Monitor* is a handsomely printed monthly, devoted to individual and family hygienics and the public health. It has reached its fifth issue, and shows every evidence that it has come to stay. It is the only sanitary journal in the South, and we are glad to see that the best Southern writers are giving it the support of their contributions. The North Carolina Board of Health subscribes to it for each member of the Board, and County Superintendents of Health could not do better than send $1.00 to J. F. Winn, M.D., Richmond, Va.

**Strophantin—A New Diuretic.**—*Strophantin* is an active principle, prepared from a woody climber of the Apocynaceæ known under the name of *Strophanthus Kombé* (*British Medical Journal*). It is a crystalline substance of intense activity, and seems to be destined to take an active part in our list of heart-remedies. It is allied in its action physiologically to digitalis. It has been used experimentally upon animals, and clinically in the wards of the Edinburgh Infirmatory. The dose for hypodermic use is from one hundred and twentieth to one sixtieth of a grain. The introduction of this drug serves to commemorate the centenary of the publication of Withering's classical work on "*The Foxglove and Some of its Medical Uses.*"

No case of small-pox has occurred in the German army since 1874. This is due entirely to rigid vaccination and revaccination. The results are very different in the French and Austrian armies.

Rupture of membranes long before labor is reported by Dr. Jas. Brydon (*British Medical Journal*) and the patient delivered of a healthy child. Liquor amnii begun to escape freely January 4th and continued until July 9th.

Cocaine muriate in cracked nipples has answered very well in the practice of Dr. George Mecuen, of Boston. He applies a 4 per cent. solution with a brush, and in five minutes a second application, and the result is anæsthesia of the parts, so that the infant can nurse directly from the nipple or through a nipple shield. It did not interfere with healing.

Removal of calculi from the bladder is the subject of an interesting paper by Dr. James Murphy in the *British Medical Journal.* The patient was an educated architect with a mechanical turn, and succeeded, after repeated attempts, in removing 43 calculi by means of a No. 10 catheter and a large ear syringe. The calculi varied from the size of a No. 10 shot to a large pea, and the most favorable position was on the knees.

Aletris Farinosa Rehabilitated.—An old friend once beautifully introduced by Jacob Bigelow (1817) with a handsome colored drawing, and mildly praised as a tonic ; extolled by Pursh (1814) as a cure for the colic ; by Dr. Cutler for chronic rheumatism ; still more emphatically by Rafinesque (1841) as "tonic, stomachic, narcotic and repercussive"—"it cures the flatulent and hysteric colic, and is said to relieve the chronic rheumatism"—"in fevers it avails speedily" ; by Byrd (1728) as a rattle-snake antidote. Two things have been discovered about it, according to the *London Lancet* (July 4th)—that it belongs to the order of lilies, and that it is a "powerful uterine tonic, far superior to the other remedies employed in uterine disorders." We are glad to see our homely American plant get a "national reputation away from home," and it is too bad to say that it does not belong to the lily family, but to the Bloodwort Family (*Hæmodoraceæ*), and that the Indians, who knew the plant well, always preferred other roots to cure the sterility of their women.

HOW TO PREVENT THE MISTAKES OF DRUGGISTS IN PRESCRIBING.—The sad mistake made by one of the best practical pharmacists in the country, at Hoboken, calls the attention of the public again to some means of preventing them. Besides a distinctive mark for all dispensing bottles containing poisons, and habitual carefulness on the part of the dispenser, and an absolute prohibition of conversation between him and his customer whilst he is compounding, if every prescription is carefully gone over by a second clerk to check any possible error fewer mistakes will occur. The druggist will reply, this is not possible without two clerks, and the public will reply by leaving their prescriptions at the drug store where there is the least chance for error.

MORBID ARTERIAL TENSION is the subject of the *Bradshawe Lecture* by Dr. James F. Goodhart, of Guy's Hospital, London, is a most masterly discussion by a practical pathologist, and if delivered with any spirit, must have been highly successful as an address. In a closing paragraph he said: "It was said in my hearing the other day by one who, saying it, made it well worth the saying, that he did not feel altogether satisfied with his life's work. It was not enough for him to have been in the van of scientific medicine; he would have liked to have been able to say: 'This is my discovery.' In a more general way, I have sometimes thought that medicine is less happy than painting or sculpture, which can have a life's work visibly before it, and point with satisfaction to its numerous creations. There is something in the idea, but it wants in depth. One may well be content to have been in the van; it is a truer evidence of depth than the one discovery. Wherever I go I hear Addison spoken of by his pupils, not as a discoverer, but as a master teacher, whose hold still bends them to an almost reverential admiration. I hear of Bright, not so much as a name attaching to a disease, as that of a man whose observations are worth attention, whatever be their subject. I hear of Latham and of Murchison in a manner; we shall hear of those we may not mention in their presence. Such as these influence their fellows by a power quite independent of their additions to our knowledge."

## READING NOTICES.

J. F. Stevens, M.D., of Shabbona, Illinois, states: "*Tongaline* is a valuable remedy, and while of service in all forms of neuralgia, its best effects are seen in treating neuralgias of rheumatic origin. I have not met a single case of this ordinarily troublesome disease which did not get speedy relief, when full doses of *Tongaline* were used. I can recommend it as a prescription which will yield positive results."

——(o)——

Mr. L. Chamberlain:—*Dear Sir*:—The patent Seat sent some four weeks ago has been used ever since in my own service. The idea of the construction is an original one, and the philosophy is sound, based upon correct anatomical principles. I have found benefit from the use of it, and they must prove very beneficial in cases for which they are recommended, and shall take pleasure in giving my approval of the Seat.

Very respectfully,
John Herbert Claiborne, M.D.
No. 30, Union Street, Petersburg, Va.

——(o)——

I have used Celerina for nearly three years in my practice, and have found it all that is claimed for it in every respect. I have made one severe test upon a man who has been a drunkard for fourteen years, who could not sleep unless he had one continual opiate. I discharged him after three months, using nothing but the Celerina in one-drachm doses, two to four times a day. I could cite many other cases, but in closing will say I believe every physician should have Celerina in their offices, and prescribe it in all Nervous Diseases.

James H. Bullard, M.D.
Pacific Junction, Ia.

NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

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# ORIGINAL COMMUNICATIONS.

## THE CAUSES AND FIRST SYMPTOMS OF MENTAL DISEASE.

A Clinical Lecture, by Dr. Ewald Hecker, Translated with Special Permission of the Author by F. Herbert Hacker, M.D., of Charleston, South Carolina

In cases where an hereditary tendency to mental disturbance is not present, other causes (such as inflammation of the brain, bad food, etc.) may have been at work in producing a weakness and irritability of the brain, which render it more liable to disturbance of its functions, and you will have to constantly watch in such cases all symptoms which point to nervous irritability or mental weakness. Tendency to congestion of the cerebral vessels, intractable headache, neuralgia and other disturbances of sensibility, and above all things persistent insomnia, are but too often the forerunners of severe mental disease. All these things can play the part of a superinducing cause, but it will be more frequently correct to regard them as the first signs of the same brain disease from which arise the physical phenomena. In some cases this discrimination will be very difficult to make, but you must always be prepared for the relatives of the patient to regard the first *symptoms* as the *cause* of his insanity. For instance, a violent mental excitement to which the outburst of the disease is attributed, will frequently resolve itself, when more closely examined, into a symptom of an already morbidly increased excitability and irritability, or as merely the result of an erroneous interpretation of external circumstances. I do not mean by this that psychical influences, especially when they act with great suddenness, or on the other hand, by a long and protracted course wear out and exhaust the nervous centres, have no ætiological importance. However, as is the case in somatic pathology, the chapter on the causes of disease is still a very dark one. Besides the causes we have already mentioned, you will frequently hear as superinducing causes of insanity, poor food, bodily and mental overwork, excesses *in baccho et venere*, disturbances in the circulation of the brain, whether brought about by disease of the brain itself (tumors, apoplexy, meningitis, etc.), or produced by more remote pathological changes—valvular disease of the heart, congestions of the portal circulation, diseases of the uterus, menstrual disturbances, reflex or direct irritation or paralysis of the sympathetic system.

As a rule several causes work together in the production of a psychosis, and we must discriminate here between *predisposing* and *accidental* causes. It is worthy of notice that we frequently observe psychical disturbances after certain diseases of the general system long after the fever, with its accompanying delirium, is over; for instance, after typhoid fever, after pneumonia, cholera, acute articular rheumatism, as also after intermittent fever (frequently as *intermittens larvata*, with intermittent type). I must also not forget to mention that pregnancy and the puerperal state cause a great predisposition to mental disturbance. Many of the causes I have mentioned gain great importance by the fact that, as is the case in hereditary predisposition, they give a certain definite character to the psychosis, a stamp peculiar to it alone. Kahlbaum was the first to call attention to this circumstance by the general remark that psychosis brought about, as it were, reflexly, by an extra-psycho-cerebral cause, are often characterized by a frequent and rapid change in the phenomena, by a varying course and numerous lucid intervals, and not infrequently by the consciousness of being mentally affected. If you therefore find in a case which comes under your observation all these symptoms present, I advise you to make a careful examination of the entire body, directing particular attention to diseases of the different organs, constitutional diseases, cicatrices, exanthemata, etc. Above all things, be particularly careful in your investigation as to the presence of *syphilis*. The mental disturbances produced by this dyscrasia, which frequently run the same course as general progressive paralysis, of which I shall speak later on, are characterized, as Heubner has shown in his excellent monograph "*On the Syphilytic Diseases of the Brain*," by the imperfectness of the symptoms, the disturbance of consciousness without its entire loss, by the impaired voluntary activity, the "half-sleeping, half-waking, half-dreaming" condition of the patient. Wunderlich, also, in his "*Lecture on the Syphilitic Diseases of the Brain and Spinal Cord*," calls attention to the "fragmentary" character of these phenomena.

A second very important group, which, under certain circumstances, give rise to very definitely characterized symptoms, is formed by *injuries and wounds of the head.* These are of very great importance and demand a very careful investigation, as it has been shown that they may remain without any evident effect for a long period of time. For many years a creeping inflammatory process may be going on, or an irritation and disturbance of the brain may be brought about reflexly by compression of nerve-endings, which shows itself by a tendency to congestion of the cerebral vessels, great irritability and an excitable, violent temperament, together with a marked inability of the brain to resist external impressions; even small quantities of alcoholic stimulants produce a state of intoxication which may even be characterized by acts of violence or a senseless tendency to destroy everything within reach. In a case which came under my observation the patient (a distiller) had to give up his business because the very smell of the spirits and ethereal oils used in the manufacture of his liquors caused pain and numbness of the head. All these phenomena, as I also remarked of the hereditary form, are characterized by the fact that they commence sometime after the accident, and that thus from a definite point of time a change may be noted in the mental condition of the patient. Frequently you may observe slight paresis of some of the muscles of the face or of one or other of the extremities, and the patient in many cases becomes gradually incapacitated for business, as both physical and mental work cause him violent headache, which is frequently of a decidedly neuralgic nature. The act of thinking becomes more and more difficult for him, and in writing he has frequently to stop from inability to use either his pen or his thoughts. At the same time his irritable and violent disposition becomes more and more marked, and develops finally into outbursts of rage which have all the characteristics of acute mania with loss of consciousness. These attacks, which later on occur spontaneously without any external cause, are sharply characterized by the suddenness and enormous rapidity with which they come on, as well as by the complete lack of all regard to consequences which the patient exhibits in his attacks on persons and lifeless objects. As a rule these attacks last only a short space of time and give way to a feeling of comparative euphoria. I must finally call attention to the exceedingly frequent occurrence of "*epileptoid attacks.*" When you are called to treat a case of suddenly developed psychosis with the phenomena of raving and furious delirium never neglect to examine the head as to the presence of scars, as well as to inquire if epileptoid convulsions have not been observed before the present sickness. Frequently your researches will be successful in one or the other direction.

These *attacks of convulsions*, of which we have just spoken, are frequently the first symptom which creates alarm. A healthy-looking, strongly-built man, who, up to that time, has had no symptoms of existing disease, falls down, has spasms in the muscles of his entire body, his respiration becomes panting, his pupils are dilated. You are called and find him in an insensible condition. Of course you cannot at first form any definite diagnosis without regarding genuine epilepsy and insanity after injuries to the head—it may be either apoplexy or embolism, acute alcoholic intoxication, uræmia, chronic lead-poisoning, and so on, and you will have to take account in forming your diagnosis of all these eventualities, but never forget to think in addition on the possibility of the presence of a form of mental disease, which unfortunately appears to be getting more and more frequent, and which has a fearfully bad prognosis—I speak of *general progressive paralysis*, which is sometimes ushered in by an attack such as the one we have just described, of an epileptiform or epileptoid character. As a rule however, other signs of a developing mental disease have been present before the attack, but only appear now in their full meaning to the friends of the patient on the repeated questionings of the physician. You then find out that the patient complained every once in a while that he became easily fatigued, that his limbs went to sleep, and especially that he was troubled with insomnia, or in some cases of a slight degree of strabismus or ptosis of one eyelid, or of a difference in the breadth or narrowness of the pupils. While you are trying to gain information on all these points the patient returns to consciousness; you now occasionally notice a slight paretic weakness of one arm or leg, which—and this is especially characteristic of general paralysis—disappears in a day or two, or even in a few hours. But above all things you notice now for the first time, unless this symptom was present before, a peculiar disturbance of the patient's speech; he cannot pronounce certain letters; he talks like a drunken man, slurs and swallows letters, or even whole syllables and words. This symptom will become particularly plain if you make the patient repeat some word which of itself offers some little difficulty in pronunciation, such as the word "Constantinople." Here you will frequently notice how the patient stumbles, as it were, and how he vainly endeavors by rapidity of utterance to regain the correct articulation. In many cases this phenomenon is the first symptom of the disease and gives a good *point d'appui* for the formation of a diagnosis. It is usually complicated with a peculiar trembling and vibration of the lips and cheeks, as well as fibrillary contractions of the tongue, which does not, however, deviate to one side on being protruded from the mouth. You may also frequently observe an uncertainty in the movements of both the upper and the lower extremities. Moreover, the patient has a genuine tabetic gait in one or other of its many gradations of development, and is incapable of using his fingers for any purpose which requires delicacy and precision of the sense of touch and nicer coördination of muscular effort. The handwriting of the patient becomes irregular, and he finds difficulty in tying knots, fastening on buttons, etc. Frequently there is still no sign of mental disturbance, and at the same time you can frequently already make the fateful diagnosis with a great degree of probability. It is now your duty to insist on your patient giving up his business and keeping as quiet as possible, and if he can do so, strongly advise his withdrawal to some peaceful country place: for it is still possible that the onset of more severe symptoms may be avoided, or at least retarded. Do not send your patient to a water-cure establishment, or, on account of his tabetic troubles, to a warm bath; you would by such measures only hasten the outbreak of severe symptoms; on the other hand, make diligent search for any signs of concealed lues, since, as I have already remarked, lues is frequently the cause of general paresis, or at least of a disease which runs a similar course and has identical symptoms. If you find any cause to suspect its presence, you will immediately commence a vigorous inunction of ung. hydrargyri im., or administer per orem the iodide of potash, as circumstances may demand; with the iodide you may combine, when any excitement shows itself, equal parts of the bromide. Even in cases where there is no reason to suspect the presence of syphilis, great benefit will be seen to result from the use of these two salts, as the constantly increasing insomnia is very favorably influenced by their employment; often enough, however, you will have to treat this latter symptom with opium and morphine. I advise you to make no use in such cases of chloral-hydrate, as it only favors the threatening vaso-motor paresis, and in this way, as Reimer has shown, leads to the formation of bed-sores.

In most cases the disease runs its fatal course; it is true, many deviations therefrom, as well as apparent improvement, may be observed; the latter, however, is also but of short duration. In the meantime the temper of the patient has been at times gloomy and melancholy, at others he shows decided excitement. He has the consciousness of some approaching disaster, and not unfrequently becomes the victim of a fully developed melancholia, about the general character of which we shall have more to say further on. These periods of melancholy do not usually last very long, and give way then to the megalomania ("*délire des grandeurs*"), so characteristic of this disease. In his megalomania there are also plainly to be seen the signs of a rapidly progressive mental weakness. Frequently the patient passes from the deepest gloom to the most uncalled-for merriment, from being quiet and uncommunicative, becomes all at once talkative and jovial, and betrays in his words and actions a constantly increasing exaltation of self. He commences to form vast plans and projects, throws himself into the most foolish undertakings and schemes, which stand in no sort of relation to his means or station in life—he builds houses, buys up the most useless articles you can imagine, and wastes his money in every possible way. Even now the friends and relatives of the patient have no idea what is the matter with him; they consider him a little excitable, but ascribe it to the speculations he has become involved in. Gradually, nevertheless, the lack of sense in his actions and words becomes more and more evident, and his immorality more and more marked. He becomes lascivious, and sets no bounds to his now unbridled passions, and is even unable to keep within the bounds of social decency. He becomes disorderly in his dress as in his business, forgets the most important matters, mislays or loses valuable papers, and so on, and thus causes himself and others innumerable annoyances, which he does not feel or mind, as he has long since lost all normal sensitiveness. He is frequently absent now whole days from his house, and frequents all kinds of bad society in bar-rooms and houses of ill-fame, and causes finally so much public scandal that, to use a very fitting expression of Neumann's, "he makes himself impossible." The patient ought to have been placed long ago in an asylum, before having ruined his fortune and having so terribly compromised himself and family, and the physician who lets a case get thus far is always severely to be censured. Now even the most uneducated layman can see that the patient is "ripe" for the asylum before suddenly appearing attacks of mania show even him the gravity of the disease. Accompanied by frequent hallucinations (visions of the Deity, etc.), the excitement and megalomania increase in intensity, and the patient passes in quick succession from being a rich man to being a prince, king, emperor, and finally God himself—nay, not content with this, he imagines himself to be superior to the Deity himself. In this late stage, even, a complete remission of all symptoms may occur—a deceitful improvement; sometimes a melancholy stadium may intervene, and is then followed by a sudden onset of apoplectiform or epileptiform attacks, and the condition of the patient is then decidedly worse than before. He becomes a complete idiot—is at times, however, violent; othæmatomata and bed-sores are developed, and the patient dies, either from general marasmus or during one of his "attacks."

A third form of disease in which convulsions play an important part among the premonitory symptoms is *katatonia*, a disease first thoroughly described by Kahlbaum. The convulsions frequently take on a tonic character, and in the form of trismus convulsive attacks, chorea and of laughter and crying, often precede the development of the psychosis by many years. The circumstance that in about half of all cases of katatonia convulsions are present, is at least an important help in forming a correct diagnosis.

Like most other psychoses, katatonia is usually preceded by a stage of melancholia.

By *melancholia* we understand a complex of symptoms, which, as I have just remarked, may be premonitory of many different forms of disease, or may occur in the course of any one of them, or may exist by itself as an independent disease. I consider it as of the utmost importance that you get perfectly clear in your mind this relation of melancholia to other diseases, a relation which is very analogous to that which subsists between a cold and measles. A cold forms the chief prodrome of measles, but at the same time occurs just as frequently as an independent disease. Just the importance a cold has in any given case is often difficult, sometimes impossible, to determine, but other symptoms, such as unusual participation in the process by the conjunctivæ (photophobia and weeping) and a knowledge of the existence of an epidemic of measles enable us to make the correct diagnosis. This is exactly the case with melancholia—you will frequently at first be utterly unable to say whether a psychosis is in process of development, and if so, which one, or whether the melancholia exists as an independent disease. I shall endeavor to give you some points which will be of assistance to you in forming a differential diagnosis, after having given you a short picture of what melancholia is: The word itself is a sufficient definition—a morbid change in the disposition of the patient, the character of which is one of *depression*—not infrequently this commenced as the result of some quite natural and adequate cause (death of a friend, loss of property, etc.), but the unfortunate patient cannot get rid of his depression, he cannot enjoy life again, as he perhaps was formerly accustomed to do; frequently, indeed, what formerly would have made him joyous and happy, has now precisely the opposite effect. Sometimes this depression is the only symptom we observe, and after a few months the patient is cured, but in the majority of cases another very disagreeable and annoying symptom develops itself, viz: terror, anxiousness, which occurs usually in attacks which take their origin, as a rule, from some definite portion of the body, most frequently from the præcordial region, and can produce, in case the pain is unusually severe, a state very nearly comatose, and in which the patient becomes violent, tears and destroys everything he can lay his hands on, and even makes attempts on his own life and on that of others. He believes that he is being pursued, that his life or health is in danger, and that he is near starvation, or else he considers himself the most degraded and abandoned being, who is now tormented by his evil conscience, and accuses himself of crimes which he has either never committed or which at most are but slight peccadilloes. Terrifying hallucinations of hearing, of sight and of the other senses soon set in, while the patient sees at the same time in the circumstances and conversations which take place around him innuendoes and constant allusions to himself. The nature of these hallucinations and illusions varies greatly, and on the whole may be said to depend more on accidental circumstances than on the character of the disease. It is therefore useless to enumerate the different varieties, as fear of pursuit, of poisoning, etc.—with more reason we can distinguish, with respect to the degree of the accompanying excitation a *melancholia activa* and a *M. passiva.* In many cases which we then call *genuine* melancholia, or, according to Kahlbaum (who thus avoids the confusion arising from one name being applied to two different things), *Dysthymia*, the mental condition of the patient, remains pretty much the same, i. e., depressed, until finally, after months, or sometimes after years, a cure occurs or a certain degree of idiocy (always very slight) is developed. On the whole the prognosis of genuine melancholia is favorable.* The diagnosis is pretty easy to make if, after two or three months, no change has taken place in the condition of the patient, or if none of the specific signs of the other psychoses are present, which we will discuss a little further on.

As to treatment, I advise you to place a patient who has marked exacerbations of his condition with attacks of terror, in an asylum, and to have him carefully watched, especially if you have any reason to suspect the existence of suicidal impulses, which, as I have already remarked, are so frequently present. Opium in increased doses forms the chief portion of our internal treatment (0.05 pro dosi twice a day, to commence with). In most cases it acts with great readiness and rapidity, especially in getting rid of insomnia. You may boldly increase it by 5 centigrammes every week, but I advise you, as the patient cannot get proper care and watching in his own house, not to go beyond 0.3 (!) Morphine injections also act frequently like a charm, but have the unpleasant disadvantage that the patient very rapidly becomes accustomed to their employment, and their deprivation often causes a relapse. Never give the friends or relatives, still less, of course, the patient, the hypodermic syringe, unless you wish to see the most dangerous and disastrous consequences.

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* See paper by myself in February number of this JOURNAL.

Before all things make it in all cases a rule to examine your patient thoroughly as to the presence of any somatic trouble, and make your first attack on this. By using some preparation of iron (avoiding, however, ferruginous waters containing large quantities of carbonic acid), light purgatives (excluding salina), some bitter and easily digested nourishment, you will frequently be able to cure melancholia without resorting to opium or morphine.

*Quiet*, gentlemen, I must again tell you, is a *conditio sine qua non!* It is a sad fact that, despite the unfavorable experience of thousands, and the warning voice of opiates, so many patients are advised, even by their physicians, in the most irrational manner, to seek distraction, and though they long for that rest and quiet which is so essential to their physical and mental well-being, are forced into undertaking long journeys for the sake of "travel," and driven sometime by sheer force into society, parties and theatres. Even in his own family the patient can rarely find the requisite amount of rest which he can only comfortably enjoy in an institution specially adapted for the cure of the insane. Use your utmost endeavors, gentlemen, to root out that unhappy prejudice against institutions of this nature, and commence by convincing yourself of their efficacy and the way in which they are conducted. In a small brochure published in Berlin in 1876, "*Directions for the proper cure of the insane and weak in mind before and after their domiciliation in an asylum*," I have collected all the facts relating to this question, and I refer you to it, as I cannot speak more fully on this subject on the present occasion.

I have already mentioned the fact that in the melancholic stadium of the different psychoses very often characteristic differences may be observed, and that in the melancholia which precedes general paralysis we may frequently detect traces of an increasing imbecillitas, and that we frequently meet with hypochondriacal ideas which reach their climax in the belief of the patient that he has lost one or the other of his extremities, or that portions of his body have undergone change; he maintains that he has no head, no stomach—that the food he eats does not reach the stomach because his œsophagus is stopped up, etc., etc.

In many cases of *katatonia* the predominance of religious delusions is very characteristic; moreover, a certain stiffness may be noted, even in the very early stages of the disease, and which, in its highest development, leads to the condition known as *melancholia attonita*, which itself is very often accompanied by a well-marked *flexibilitas cerea.* The patients sit or stand for hours on the same spot, in the same position, which not infrequently is a very uncomfortable one; they say nothing at times for entire days (mutacismus), and on the other hand, are remarkable for the constant repetition of some stereotype phrase or expression. They have also a leaning to, and fondness for, dark, mystic speeches and symbolical actions; and corresponding to this quality of their mind, a seeking after mysterious and secret references and meanings in the words, movements and actions of others. Finally, they are remarkable for their obstinacy and resistance against everything they should do, and frequently refuse to eat, and have to be fed with the stomach tube. Out of this stadium melancholicumis developed the *stadium maniacale*, about which I shall have something to say later on.

In another form of disease, described by myself, and called by Kahlbaum *hebephrenia*, the melancholic stadium has quite another character. Beginning almost constantly after puberty, between the 18th and 22d year, with melancholia, the disease is, as it were, a relapse into the childishness and foolishness of early life. Even in the melancholic stage the silliness which reaches the extremest limits can be already noticed, and is usually very prominent. The patient complains of his misfortunes and the persecutions to which he is subjected, but the smiling face causes us to think involuntarily that he does not quite believe himself in everything he complains of. Gradually the melancholia becomes less and less marked, and the stadium of "silly excitability," to use the most expressive term, gains the predominance.

I have now to call your attention to the fact that the melancholic prodromic stadium of psychoses is often misunderstood or overlooked, either because of its not being characteristically developed (at least to the eye of the laity), or because there really may be some actual cause for mental depression. In such cases the family of the patient is not infrequently aroused to a true appreciation of the state of affairs by an acute attack of maniacal violence, while on close questioning it becomes evident to the initiated that it is by no means a case of acutely developed insanity, but that the patient is already in the second stage of his disease. At the same time, however, there are cases, though they are less frequent, where the disease does begin with an attack of mania.

*Mania*, by which we understand an aggregate of symptoms, never a definite form of disease, is characterized by a happy, merry temper (which can, however, change into the very opposite—rage, anger, etc.), and an irritability of ideas and quickness of thought, which finally leads to confusion and the so-called flight of ideas. This is combined with a morbid irritability of the will, which causes at times the greatest violence and destructiveness. Mania is thus in every respect the opposite of melancholia. While in the latter the predominant symptoms are depression of the mind, of the will and of the power of idealization, in mania there is a general exaltation, which, it is true, is also capable of the most varied modifications.

Mania also shows in the different psychoses certain characteristics, such as I have already mentioned, when speaking of general paralysis, of hereditary insanity and of insanity after injuries to the head. To speak of all the psychoses in which mania forms a symptom, would lead us too far and occupy too much time. I only wish to mention one other form of disease in which the maniacal stage shows likewise certain peculiarities, but which is specially characterized by the fact that there is a complete periodical change between melancholia and mania. The melancholic stadium has no marked peculiarities as regards the mental symptoms, but, as L. Meyer has observed, and I partially concur in his opinion, there is frequently a failure of nutrition, that the patients lose a great deal of flesh, particularly in the face, and look thin and emaciated, in contrast to the unusual increase in weight and nutrition during the maniacal stage. The mania, in its psychical manifestations and in the conduct of the patient, reminds one of the *délire des grandeurs* of general paralysis, but on the other hand, the imbecillitas so common in progressive paralysis, is in this case entirely lacking; on the contrary, the patients show rather an increase of their mental functions, so that they show all the symptoms of *folie raisonnante*, of which we have already spoken. Unfortunately, they make use of their exalted mental powers for the purpose of worrying and tormenting their friends and relatives, and are most happy when everyone and everything around them is in anger and confusion. Really insane ideas are usually not present, and when the patients become violent and destructive they seem to have their full consciousness. Everything they do seems to be so voluntary and spontaneous, that this disease is often misunderstood, especially as long as the excitement does not exceed a certain limit. The patients are thus capable of committing the greatest amount of evil and compromise themselves and family in the most unfortunate manner. Nymphomania is a very frequent symptom in women, and leads at times to the most unpleasant complications. If, after a time, the melancholy stadium again begins (occasionally after a period of apparent health), the laity take it as occasioned by remorse for the excesses of the maniacal stage.

On the treatment of mania I shall have little to say, especially as external circumstances require of themselves that the patient should be put into an asylum. I warn you, however, against all weakening and derivative cures, such as were formerly in vogue—such as phlebotomy, blistering, nauseating drugs, etc. You would only by such a procedure do harm and reduce the strength of the patient, which of itself becomes weakened in the progress of the disease. To procure rest for the time being, you can make use of morphine injections and chloral, but they will both be frequently of no avail. Endeavor, if at all possible, to keep the patient in bed; in this way you will more easily keep him quiet.

In conclusion, I have another form of disease to mention, in which there is neither a melancholy nor a maniacal stage, and in which the whole process limits itself to alterations in the powers of idealization and reasoning, and which is further characterized by the presence of a so-called fixed idea. This is what is termed *paranoia* (*Verrucktheit*). Many cases in which apparently there are isolated illusions, may frequently be detected to be other psychoses, imperfectly cured and in which the previous course of the disease and the imbecillitas render the diagnosis certain. Paranoia is merely a complex of symptoms in these cases. Real paranoia has, as I said, no melancholic and no maniacal stage, and at the same time never degenerates into idiocy. Although the ever increasing range of the morbid illusions renders eventually the paranoious incompetent to live and get along with his fellow men, still at the same time his mental powers are not weakened *in toto*. I have, for instance, at the present time, a patient engaged in the study of the Sclavonic languages, a subject formerly altogether new to him.

With this, gentlemen, I close my short résumé on the Causes and First Symptoms of Mental Disease. If I have exceeded at times the strict limits of the subject, I call your attention to the fact that it could not have been, from the very nature of the case, my intention to describe exhaustively all possible forms of psychical disease. If you wish to press still further into this field, you must observe patients yourselves, and read up more fully psychiatricial literature. To-day's lecture is only intended as a help to you in forming an opinion on the cases most frequently met with in practice.

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# OPIUM HABIT IN THE NEGRO.

By J. D. Roberts, M.D., Goldsborough, N. C.

A few months since application for the admission of a colored insane man into the Eastern North Carolina Insane Asylum was made from one of the western counties of the State. It was alleged that his insanity was caused from the opium habit, he using —— grains daily. A note from the physician examining the patient, added to the papers in the case, stated that this was the only case of opium habit he had ever seen in the negro, which caused me to make some inquiries on the subject. The case was received and treated in the Eastern Insane Asylum by entire suspension of the drug and generous diet, tonics, etc., with excellent results. His mental condition was improved in a few days, and in one month he had no desire for opium, and his mind was entirely restored.

So far I have heard of but three well authenticated cases of opium-eating in the negro, two of which were given me by Dr. J. L. Thompson, of the South Carolina Lunatic Asylum, and the third is detailed above.

We can see some reason why the colored man is not as susceptible to the habit as the white. He has not the same delicate nervous organization, and does not demand the form of stimulant conveyed in opium—a grosser stimulant sufficing.

The opium habit is contracted, in a majority of cases, from the physician's prescription being too long continued, either from carelessness or inattention on his part, and often unfortunate information as to what the medicine was which produced such results. In the country and smaller towns of our State this habit is not so liable to follow its prescription in the negro, first on account of his general ignorance, and next from his poverty, as well as from the less desire he has for this form of stimulant. In the large cities, especially the Northern ones, where the financial, social, and we might say, the *nervous* condition of the negro, are of a higher scale, we may find the opium habit more prevalent. As it is a known fact that the advances made in the negro as a social being are bringing with them evils in the way of diseases incident to a higher civilization. Information on these points is desirable as a closer or more extended study of the subject may show other reasons for so little of the habit in the negro.

An indulgence in the opium habit brings with it certain changes of character as to honesty, veracity, etc., and in the only case under observation the habit in the negro differs nothing in this particular from that in the white race.

Dr. J. B. Mattison, of Brooklyn, New York, lays much stress on the fact that most cases, in fact, nearly all, of opium habit originate by commencing its use for the relief of pain, generally of a neuralgic character, and we know that the negro, owing to his lower nervous development, is not liable to diseases of this character.

These few paragraphs are written with hope of obtaining other information on the subject through reports of cases of the habit in the negro, or expression of opinion from members of the profession in a position to judge.

# CORRESPONDENCE.

## RUTHERFORD COUNTY AS A RESORT FOR PHTHISICAL PATIENTS.

Rutherfordton, N. C., July 14, 1885.

Dr. Thos. F. Wood, *Editor North Carolina Medical Journal:*

Dear Sir:—During the last twenty years I have often been impressed with the fact that persons who come to this county suffering from pulmonary disease, soon commence improving, with little or no medical treatment. It is also a fact that sons and daughters who inherit predisposition to tubercular phthisis get the taint from one or the other parent who came here with the disease fully developed. At an early date after I began the practice of medicine here I noticed that pulmonary consumption was exceedingly rare, and that hereditary tubercular phthisis *in natives of the county did not exist.* It is true, as it is remarkable, that the ancestors of all the families who are called "consumptive" came here from other sections. Some of these ancestors married natives of the county, lived to raise large families of comparatively robust children and died of pulmonary disease, having passed the meridian of life by a number of years. Many grandchildren of these ancestors are among the healthiest and most robust in the county. I have under observation now three families of grandchildren who have no indication whatever of the tubercular, scrofulous or cancerous cachexia; indeed, they are entirely free from tendency to malignant disease.

In nine-tenths of all cases of destruction of lung tissue I have met here the cause can be found in neglected pneumonia, bronchitis, bronchial catarrh, etc., without any history of, or cause to suspect, hereditary tubercular taint. These patients almost invariably have excellent family history, most of them are passed middle life, and they were when first attacked thoroughly dosed by the most ignorant "quacks." I have known many instances of restoration to comparatively good health follow infiltration, caseous degeneration, suppuration and discharge from the lung.

I have now under observation sons and daughters and grandsons and granddaughters whose ancestors are known to have had tubercular phthisis (hereditary) when they first came here. The sons and daughters, many of them now passed the meridian of life, are stout, healthy and show no other sign of inherited phthisis than a slight approach to the phthisical physique in some of them, and more than ordinary susceptibility to bronchial and other catarrhs. The grandchildren show no indication whatever of the tubercular diathesis; indeed, where there has been no intermarriage of consumptives, there are no indications of constitutional vice of any character among them.

Persons who come here on account of lung troubles, so far as I have been able to ascertain, always improve, and if under my care, with but a small quantity of medicine. I can refer to many cases in point—among them is a gentleman sent by a prominent physician from Chicago to Hendersonville five years ago. He had colliquative sweats, profuse purulent expectoration—in a word, he had hectic fever, with its concomitants, when he left Chicago. He found the climate too cold and changeable for him west of the Blue Ridge; he came to this county and began to improve in a few days. He has for two years been discharging the duties of Internal Revenue Collector. I have many similar instances.

The cause for such facts must be sought in climatic, topographical and other physical influences. If you will examine Prof. Kerr's new map of North Carolina you will notice that this county lies in three sides of a quadrant formed by Tryon Mountains on the south-south-west, the Blue Ridge on the west, and the South Mountain range on the north and northeast. Four rivers and a great many large creeks take their origin in this vast cove; smaller creeks and branches are abundant all through it; indeed, this cove contains more pure, fresh, running water than any section of equal size that I have been able to hear of anywhere, and there is absolutely no stagnant water here. The average elevation above sea-level is about twelve to fourteen hundred feet; the surface is hilly, the streams have so much fall that it is impossible for material productive of malaria to accumulate; the forests have been well preserved; balsams, pines, cedars, spruces, etc., abound in the hills, and there are immense bodies of primitive forest yet untouched; the soil is very fertile and naturally well drained; the air fresh, cool, exhilarating, sweet with balsams and pure as ether ; the water cold, free, sweet and clear as crystal ; insect pests are scarcely known to exist—reptiles only in the rocky cliffs.

In a practice of twenty years here, extending to all sections of this immense cove, I have not seen a case of intermittent fever, nor one more closely approaching remittent than may be observed in ordinary continued fevers during the morning hours.

We have a high, dry, light, elastic atmosphere entirely free from malarial or other contamination, and a more equable temperature than is known anywhere the same distance from the depressing heat of the tropics. The winds from the colder points of the compass are broken up by the mountain ranges surrounding us and thrown into the higher atmospheric currents. I had a striking illustration of this fact in the spring of 1884—a cyclone that came from North Georgia was thrown upwards by the high ranges west of us; it did not reach the earth again for about thirty miles this side of the Blue Ridge, where it struck an elevated plateau in the northeast corner of this cove and eight miles west of Cherry Mountain, a spur of South Mountain, which again diverted it upwards, to descend again near Newton. It caused frightful destruction near the mountain-top. We have no steady winds from the cold quarters—occasional winds of a few minutes duration in winter, and from gentle to brisk mountain breezes in summer, is about the history of our winds.

From careful observation, embracing twenty years practice, including a large consultation practice in all parts of this remarkable locality, I am prepared to affirm that there are combined here most powerful influences that antagonize the development and progress of tubercular phthisis, that in the present state of medical knowledge the climatic, atmospheric and topographical conditions most favorable to phthisical patients are known to exist here, and from careful clinical observation, that hereditary predisposition to tubercular phthisis decreases from parent to offspring, and that where there is no intermarriage of consumptives the hereditary taint is eradicated from the third generation, and but feebly developed in the second generation. I do not base my assertions upon the history of a few, but upon many cases and instances.

If there is anywhere a refuge for the victims of that most dreadful scourge of the human race, tubercle, it is here. Nature, in ordering the "eternal fitness of things," must have fitted up this grand mountain cove as her sanitarium, her house of refuge for the victims of tubercular phthisis. The fact that residence in Western North Carolina is beneficial to consumptives has long been known; Prof. Dickson refers to it in his work on practice. For years that class of invalids have resorted here, but a very large majority of them have gone west of the Blue Ridge, where they have been exposed to the cold, humid winds of the north and west, from which they would have been entirely protected here on the eastern and southern slopes of the Blue Ridge and South Mountains. From a short residence there I was soon convinced that the winds were too cold, the atmosphere too humid and the vicissitudes of temperature too great, too sudden and too frequent for the delicate tissues and sensitive organizations of phthisical subjects to endure with impunity; subsequent observations sustain me.

My treatment is embraced in a word—*nutritive*—clothing to protect, not cumbersome. Patients who wear substantial cotton garments next to the skin, with woollen overwear, do better than those who wear heavy flannels; their skins are more easily and uniformly kept warm, soft and suple, without being clammy and spongy, as with those using the flannels. I have better results from rich sweet milk, milk-punch, egg-nogg, fresh butter, beef, mutton, poultry, corn-muffin, oat-meal preparations, etc., than from cod-liver oil, hyphosphites, commercial foods and the like, all combined. Plenty of exercise in dry open air is imperative. Intercurrent catarrhal attacks yield readily to light remedies. Troublesome diarrhœas are very seldom seen here at any stage of phthisis.

I will be glad to correspond with the profession or others on this important matter. We are now without railroad connection with the outside world, but the Charleston & Cincinnati Railroad, now under construction by the Massachusetts and Southern Construction Company, will pass through our county.

Very truly yours,
OLIVER HICKS, M.D.

# SELECTED PAPERS.

## THE CURABILITY OF CONSUMPTION.

In an article on pulmonary phthisis in the *Medical Record* of the 22d ultimo, Dr. J. Milner Frothergill, of London, makes the somewhat startling assertion, based on an experience of ten years in a chest-hospital, that the disease is far from being necessarily fatal. Under fairly favorable circumstances, he holds, a rally may be made in the large bulk of cases, which may lead to recovery. This is certainly glad tidings, and a detail of the means through which this consummation may be reached, will be eagerly read. It is customary in acquainting the patient of the fact that he has consumption, to do so in a tone and manner calculated to shut out from him the faintest ray of hope. Treatment, moreover, is usually undertaken with a view to euthanasia, rather than with a hope to snatch the brand from the burning. If, therefore, Dr. Fothergill has put it in our power to tell the consumptive that the odds are in favor of his outliving his disease, he will prove to have been one of the greatest of the benefactors of this and succeeding ages. He does not propose anything particularly new in the way of treatment, nor does he vaunt any specific. His common-sense application of means already familiar will, however, commend themselves to the attention of the profession.

The line of attack advised in incipient cases is to improve the general condition, in which improvement the new growth will have its share. To check the body expenditure and to increase the body income are our aims. All outgoings must be stopped. This is the first step. If a woman, attend to any leucorrhœa at once. Many a good line of attack has failed, many a woman sunk into her grave who might have been rescued, if only that outgoing had been attended to. If the catamenial loss be heavy, put an arresting finger upon it by some ergot, sulphuric acid and sulphate of magnesia, commencing with this two days before the appearance of the flux, and continuing it during the flow, reverting to the usual treatment on its completion. Then, is there diarrhœa? If so, attend to it. Milk and farinaceous matters are indicated (no meat-broths no beef-tea—"giving the patient a stone when he asks for bread"—unless some farina be added). Then for medicine some astringent preparation of iron may be given in the day, and a pill of sulphate of copper (gr. ¼-½ with opium (gr. 1-1½) at bed-time. If there be both diarrhœa and night-sweats this pill will often "kill two birds with one stone."

If there be night-sweats, arrest them at once, or as soon as may be. Sweat is an excretion, and is highly charged with blood-salts. Consequently, profuse sweats are most exhausting. Check them, and the appetite returns, and between the two the patient does well. Prof. Sidney Ringer, F.R.S., has laid the phthisical world under a deep debt of gratitude by pointing out the potency of belladonna in the matter of hydrosis. The best preparation is atropine, not only because it is tasteless, but because we know exactly what we are doing when using it. But to secure its good effects it must be pushed. Its effect upon the pupil is nothing. Indeed, in a very extensive experience of belladonna the pupil has rarely been affected. (The effect upon the pupil is a bug-bear which ought to be buried.) Dry throat and dim eye-sight are discomforts, but unless severe they need not disturb the treatment. There is a wide gulf between these and any real danger. The very lowest dose is 1-75 of a grain. If this does not achieve the desired end, then 1-50. If that is not sufficient, then 1-25. If that fails—which it rarely does—one must begin to look seriously at the case. When this dose is reached, and yet the sweats continue, Dr. F. adopts the plan of an old New York quack, of which Lewis Sayre told him, viz: to sponge the patient over with hot vinegar (½ pint) with a teaspoonful of cayenne in it. This is not at all disagreeable, and is effective. If the combined measures fail, the patient's case is hopeless, but his physician's conscience is clear.

Perhaps the patient's rest is broken by cough. Dr. F. recommends the following combination in such cases: Morphine (gr. ⅓), atropine (gr. 1-30), with pil. galban co. or "pil. al. et myrrh.," as the case may require. This is a pill which has done him yeoman service in his warfare with phthisis. It has found its way into the Brompton Hospital, and more recently into Squire's "Companion to the Pharmacopœia." It will, he thinks, find its way before long into every consumption hospital in the world. This action of carbonic acid upon the sweat-glands has led Dr. Lauder Brunton to advocate strychnine (a potent stimulant to the respiratory centre) in the night-sweats of phthisis. No doubt it is useful. Dr. F's practice is to give it in the day-medicine. His favorite mixture at the hospital consists of liquor strychnine (♏iv.), acid phosph.) dil. ♏xv.), tinct. capsici (♏iv.), in infus. gent. ( ʒ j.), *ter in die.* This forms a capital tonic. Some quinine or sulphate of magnesia (or soda) may be added as required.

One of the rules which have formed themselves in his mind is to give acids when the tongue is clean or coated. When the tongue is bare, raw or irritable, then alkalines are indicated as am. carb. (gr. ij.–iv.), tinc. nuc. vom. (♏x.) inf. gent. ( ℥ j.), *ter in die.*

On such a line of treatment the patient usually improves. The night-sweats cease, the appetite returns, the cachectic look departs, and the patient feels much better. The improvement is maintained, and soon iron and arsenic can be added to the strychnine, and cod-liver oil to the dietary (but cod-liver oil is not the best form of fat, nor yet the most palatable, though it is the most digestible. Some forms of fat in an emulsionized state are now on the market, which possess many advantages over cod-liver oil). Iron is a good hœmatinic.

Arsenic is an alterative and a tonic greatly believed in by many good observers in lung-consolidation. If the patient can be induced to take fat in any form the healthy tissues can be built up. Very commonly the affected area is found to shrink and air to pass into it. In a few months, in many cases, it is scarcely possible to detect any change in the lung. The threatened danger has passed away!

All along in the treatment advocated the matter of improving the general condition has never been lost sight of for a moment. If the patient can get away to a dry soil and a bracing locality, all the better for him or her.

Another common patient is the person who has chronic phthisis with cavities. Such patient is always spare and badly nourished at the best; and when any intercurrent ailment still further lowers the general condition the lung trouble is aggravated. (And one matter has forced itself upon his attention, viz: that wherever there is old lung-consolidation any disturbance in the liver sets up irritation in this consolidated patch with resultant cough. And this cough, which is intractable to ordinary cough-medicines, is relieved by acting upon the liver.) The appetite has fallen off and the nutrition is impaired; and then the special danger in phthisis is set up. Very often the tongue is raw, or beefsteaky, or patchy. Here attention to the *primæ viæ* (as our grandfathers phrased it), is imperative. The patient must be sent to bed, to reduce the body expenditure to the minimum. The medicine must be bismuth, with alkalies; and the food, milk with malt extract, or a malt preparation like Mellin's food, in small quantities at a time, oft-repeated. No solid particle in the stomach to vex and irritate the sensitive (because ill-fed) mucous membrane. Even an alkali—like carbonate of magnesia—may be required to neutralize acidity and prevent too firm curdling of the milk; as much as will lay on a sixpence to the half-pint of milk is usually sufficient. Having got the assimilating processes into good working order, the tonics may be given. "The more haste the less speed" is especially true of the treatment of phthisis; and the desire to push on with tonics and good food sadly too often defeats its own end. Sometimes a masterly inactivity is the wisest practice. A clear head and a firm wiil are often required to curb the desire of the patient (and still more the patient's friends) to be getting on. Back-cast after back-cast teach a painful lesson to the medical man, and involve the patient in acute danger. If the pressure put on a young medical attendant is becoming more than he can bear, let him call in an older head to help him.

The chief thing to avoid is morphia linctures for the cough. An opiate to procure sleep may be essential and unavoidable; but sedatives in the day are dangerous. They give relief from the cough, but too commonly they give permanent relief by death. Opium lays its palsying hand upon the assimilative organs and destroys the appetite. Its evil effects seem most distinctly felt by the liver. When an opiate is indicated at night, it should be combined with ipecac to antagonize its effect upon the liver, and with aloes and myrrh pill to correct its action upon the bowels. Opium strikes directly at that assimilation which is the cardinal matter in the treatment of phthisis. The patient most certain to die, the case least amenable to any treatment, is that one whose wasting progresses steadily, and where the lungs are only affected quite on—indeed, a brief while before the final change sets in.

As to other means of allaying the cough than opiates, inhalations of steam are often serviceable. Friar's balsam, iodine, carbolic acid, terebene, eucalyptus, all are good as additions to the steam. Where there is a cavity with ragged walls smelling offensively, a respirator with cotton wool charged with carbolic acid is indicated.

Then, as to other means of feeding the patient, there are inunctions of oil, often of service, especially with young subjects. Nutritious enemata have only lately suggested themselves; but in one case of a medical man steadily wasting, an enema of cod-liver oil (emulsionized by a drop of bile) and milk in equal quantities is being tried. In appropriate cases in the hospital the plan is about to be tried. Such enema night and morning, while in the recumbent posture, would be readily retained. When the temperature mounts up, and especially when the skin is also moist (the usual state in hectic fever connected with phthisis), Dr. F's plan is to give quinine (gr. ij.–v.) with tincture of digitalis (♏. x.–xv.) and dilute phosphoric acid (♏. xv.), thrice daily. The effect is very satisfactory usually. Where a severe raking cough is present, shaking the poor sufferer terribly, it may be necessary to give opiates; but in the author's experience such cough is very rarely found with pulmonary phthisis.

The treatment of hæmoptysis is quiet; no movement, no talking. When it arises from the bursting of an aneurismal sac in a cavity, or from an ulcerating process eating into a blood-vessel and opening a communication between the vessel and an open air-tube, syncope alone is likely to arrest it. In congestion of the lung it is often an excellent form of local bleeding. Men of old bled for its relief; now free purgation with mineral salts is in vogue. For small recurrent hæmoptyses the best treatment is to keep the bowels open. Ice, ergot and dilute sulphuric acid may also be tried; probably they will do no harm. It is a bad plan to feed up a case of recurrent hemorrhage; it only fills the vessels rapidly, to end in more bleeding.

Finally, the management of phthisis pulmonalisis, whether the less grave or the more serious conditions, is a good test of the knowledge, skill and tact of the practioner, who must, like a competent soldier, be able alike to plan a campaign or execute a sudden change of front in an emergency. That is, he must be able to lay down a persisting plan of treatment, and promptly change his plan to meet some intercurrent condition, as hæmoptysi or acute gastric disturbance.—*Medical Age.*

# NOTE ON HYDRO-BROMATE OF HYOSCINE.

By H. C. Wood, M.D.

Since my last communication to the *Gazette* I have used hyoscine in a number of cases with confirmatory results to those previously reached, and at the same time a more complete outlining of the limits of the usefulness of the drug. The dose by the mouth which is necessary is somewhat larger than I had at first supposed, most persons not being distinctly affected unless by 1-80 of a grain. A new field of usefulness seems to be in cases of spermatorrhœa, and I have only had the opportunity of using it in three or four cases; but the results have been uniform, and much more correct and assured than those I have ever seen reached by any other drug. Thus, in one case in which the discharges averaged about three a week, they were completely arrested by the exhibition of 1-75 of a grain every night. Unfortunately, the effect is not at all permanent: so soon as the drug is intermitted the tendency appears to recur. Whether long-continued use of the drug will have a lasting effect or not I am unable at present to say. Indeed, the number of cases which I have myself seen is too few to warrant a positive conclusion; but at my suggestion, Dr. Robinson, physician to the Eastern Penitentiary, Philadelphia, has been testing the drug on the convicts, the disease being exceedingly frequent among them. He informs me that its results have been surprisingly good, and promises a definite statement to the readers of the *Gazette* in the future. It is interesting here to remark that one of the most successful cases of the use of the drug was seen in a female suffering from erotomaniacal symptoms.

As a soporific the drug is especially successful in those cases in which the insomnia is due to excessive cerebral action—cases in which there is a perpetual and uncontrollable succession of thoughts. Allied to this form of insomnia is the mental condition in which the sleep is excessively disturbed by urgent dreams. This, also, I have seen controlled by hyoscine. In one or two cases of intense fever with delirium the hyoscine has seemed to act very well in controlling the delirium. In two cases the symptoms have been such as to suggest that the drug exerts a paralytic action upon the recurrent laryngeals. One of these cases was in the person of a maniacal female, in whom the hypodermic injection of a large dose of the salt was followed at once by a paroxysm of suffocation apparently paralytic and laryngeal. The second case occurred in a child about ten years old suffering from very violent anginose scarlet fever with moderate laryngeal dyspnœa. Hyoscine was prescribed for the excessive insomnia which had lasted from the onset of the fever, with very good results so far as the somnia was concerned; but so soon as the child came under the influence of the drug the laryngeal symptoms increased with very great rapidity, and in the course of an hour or two death resulted. Whether the hyoscine was or was not the cause of this increased dyspnœa is of course uncertain; but two cases are assuredly enough to arouse suspicion.—*Therapeutic Gazette.*

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## A SUBSTITUTE FOR SENEGA.

Of all the well-marked expectorants which are used in the treatment of cases of emphysema, senega root occupies the first place; and although not only here, but in the second stage of acute bronchitis, in chronic pulmonary catarrh, and the latter stages of pneumonia, it produces often valuable effects, it unfortunately has a very bad taste, is expensive, and often produces intestinal irritation. Dr. R. Kobert (*Centralblatt für klin. Med.*) has found that this drug contains two glucosides which are in different proportion in different specimens of this drug as found in the market, and he has further found that in the market, and he has further found that in the quillaja bark (Quillaja saponaria molina) these two glucosides are present, and in almost five times the proportion in which they are found in senega; and since this quillaja bark is ten times cheaper than senega root, the same amount of active substance is fifty times cheaper than in the case of senega. Moreover, the amount of glucosides present is a constant one, and the bark contains a considerable quantity of sugar, which gives the decoction a sweet taste, and which renders it further free from the disagreeable taste of the senega decoction. On these grounds Dr. Kobert was naturally led to test its employment therapeutically; and the results of numerous observations have shown him that patients bear this article better than senega, that it very seldom produces vomiting or diarrhœa, that the sweet taste leads to its being readily taken by children, while its expectorant action stands beyond all question. The mode of administration which he employed is in the form of a decoction of five parts of the bark to two hundred of water, taken by the tablespoonful by adults and the teaspoonful by children. Dr. Kobert states that ulcers or inflammation of the intestines or stomach are contraindications for the use of this drug, since its rapid absorption by portions of the intestinal tract which have lost their epithelial coating, may readily produce symptoms of poisoning. If taken dry, even when mixed with sugar, the powder nearly always produces coughing. It is to be hoped that these results will be generally tested, as a powerful and safe expectorant is certainly greatly needed.—*Therapeutic Gazette.*

## HOPEINE—(ALKALOID FROM HOPS.)

This alkaloid, which appears to be different from the lupuline of Griessmeyer, is said to be most abundant in the American wild hop. It occurs as a white crystalline powder, or in the form of needles a third of an inch long. It is very sparingly soluble in water, but dissolves freely in alcohol, the solution having the most intense bitter taste and a pronounced smell of hops. Chemically it bears a close resemblance to morphine. In its physiological action it is a pure narcotic, even fatal doses producing no irritant effect; but it contracts the pupil, raises the temperature and increases the frequency of the pulse at first, but afterwards diminishes it. The deep sleep which it induces is apt to be preceded and followed by peculiar hazy hallucinations. It has been used as a hypnotic in doses ranging from one-third to six-tenths of a grain for adults, though three-quarters of a grain have produced symptoms of poisoning. The dose does not have to be increased on account of the system becoming habituated to the drug. The "toxic dose" is not much above a grain and a half for adults, and not over nine-tenths of a grain for children.—*New York Medical Journal.*

# REVIEWS AND BOOK NOTICES.

A Complete Pronouncing Medical Dictionary. Embracing the Terminology of Medicine and the Kindred Sciences, with their Signification, Etymology and Pronunciation. With an Appendix, etc. By Joseph Thomas, M.D., LL.D. Philadelphia: J. B. Lippincott & Co. 1886.

A medical dictionary must contain not only the current and obsolete words in the medical sciences, but must also give those in nearly every department of natural science. Very much is expected of such a work, and the task of compiling it must involve a knowledge of languages dead and living, and a knowledge of the sciences in all their rapid advancement. The work before us not only attempts this, but it has undertaken in an especial manner to give the pronunciation. That a new medical dictionary with such distinctive qualities was needed, has long since been recognized, and we hail the appearance of this for reasons we will give.

This dictionary is based upon the smaller volume by the author, which has proven such a handy volume tó the medical student. "The fact that multitudes of our young men commence the study of medicine," he says, "without any previous acquaintance with Latin or Greek, renders it important that the elementary works intended for the use of students should be adapted to meet this exigency. To meet the needs thus indicated of the medical student, it has been deemed necessary to furnish fuller explanations in regard to several subjects than has been usual in the preparation of medical dictionaries." In this estimate he has rightly judged the needs of the student of to-day, and has succeeded in meeting the necessities of the times. He has given us a volume which includes words but recently coined, and has avoided much of the rubbish of obsolete ones. He has succeeded in denoting pronunciation so clearly as put the student in possession of the best usage, without confusing him with the complicated signs of some of the more recent dictionaries: and the publishers have brought the work out in clear, distinct type, which catch the eye and facilitate a hasty search for words.

It would be expecting too much to find a dictionary of a science so expansive and expanding as medicine is, to be perfect, and we make some notes on omissions and faults, which are offered the author with some hesitation, but in an honest spirit.

Some of the omissions noted were : *Abortifacient, Acrylic Acid, Analgesic, Aspergillum, Cœliac Axis, Magendie's Solution, Leucoderma, Vaccinifer, Variolation, Dropsy of the Ovary, Ovary, dropsy of, Dystocia, Dyschesia.*

Some of these words are unimportant, but the omission of several of them will surprise those who consult the volume. *Analgesic*, for instance, a substance which overcomes pain ; *Magendie's Solution*, a preparation largely in use by physicians for hypodermic administration ; *Vaccinifer*, the person or animal that produces the vaccine vesicle ; *Dystocia*, difficult labor ; and so on through many more of them which we have noted. The word *Alphosis*, used by Quain (see Dictionary, p. ——) to denote the act of becoming white, is not mentioned.

The spelling of words follows the best authority, but the word *Ailantus* is written incorrectly Ailant*h*us, for which see Murray's Dictionary and the usage of the best botanical writers of the day except Dr. Gray.

*Aneurism* is spelt as here given and not aneur*y*sm. The latter is etymologically correct, and is used by English writers, but the choice should be given of both forms.

*Cannula* is given according to English usage, and no reference is made to the equally correct form, *Canula*, used by all American writers.

*Vaccina* is the spelling employed for the Latin of Cow-pox, and is undoubtedly correct, although not the accepted form, *Vaccinia* being almost exclusively used. But at the word *Cow-pox* reference is made to *Vaccinia*, as though this were the form accepted by the author. *Whooping Cough* is also adopted, and not *Hooping Cough*, as given in *Index Medicus* and the *Index Catalogue* of the Library of the Surgeon General's Office, and by other American authorities, including Webster.

As helpful as this volume is in pronunciation, there are some words which we note as being at variance with the best usage. We regret that we cannot give accent signs to accurately indicate the sounds.

Hyp-o-dermic is not the recognized pronunciation, and has nothing to recommend it, not even euphony. The pronunciation Mi-crosco-py, with long *i* in the first syllable, had but a short life, and except in the case of a few, mycro-scopy is accepted.

The author gives *Gel-se-mium* as the pronunciation of Gel-sem-ium. The established pronunciation of this word was brought about by improperly spelling *Gel-sem-inum* as used by some writers, and since the word has been uniformly corrected in text-books the pronunciation Gel-sem-ium has been adhered to, and was adopted in the last edition of the United States Dispensatory. Preference is given to Phys-o-stig-ma, instead of Physo-stigma ; to Pod-o-phyllin, rather than Podo-phyllin ; to Proph-y-lactic rather than Prophy-lactic ; to Ec-ze-ma rather than (Ec-zē-ma) the long sound of *e* in the second syllable. Quĭ-nīne pronounced with short *i* in the first syllable and long *i* in the second, rather than the more affected *kè-neen* of some, or the long sound of *i* in both syllables. The pronunciation of the last two words (*eczema* and *quinine*) is according to the best usage.

We note that Erythroxylon Coca is placed in the Natural Order Violaceæ, whereas that order is quite distinctly removed from the Erythroxyllaceæ, its true position.

The larger part of the appendix is exceedingly useful to students, and greatly enhances the value of the volume. In it we find "Explanation of Latin Terms, Phrases, etc.," "On Writing Prescriptions," "Table of Doses," "Table of Chemical Symbols," "Table of the Orders and Families of Living Mammalia" (one page only), and "Metric Weights and Measures."

This volume addresses itself to the apothecary and student of natural history as much as to the physician, for in it is included all the recent preparations of the United States Pharmacopœia, and an almost complete vocabulary of botanical terms and a short description of numerous plants valuable for medicine or for food.

The directions for prescription-writing are clear and explicit, and one piece of advice, whether intended to be humorous or not, has apparently been adopted by the majority of those who write prescriptions :

"If the writer of a prescription cannot afford to take the trouble to be correct, it would perhaps be better for him to use abbreviated names or terms," etc.

Thomas' Dictionary is destined to become the popular book of reference with the doctor, the druggist, the botanist and other science students, and its preparation in an excellent style of the typographer's art will make as attractive as it is useful.

**ACNE—ITS ETIOLOGY, PATHOLOGY AND TREATMENT.** A Practical Treatise Based on the Study of 1500 Cases of Sebaceous Disease. By L. DUNCAN BULKLEY, A.M., M.D. New York: G. P. Putnam's Sons. 1885. Pp. 280.

It is seldom that one sees a handsomer volume than this new treatise by Dr. Bulkley, and this is not too high praise, even though we recall the many excellent examples of the publisher's handiwork in the preparation of medical volumes. The typography, the paper, the illustrations are all faultless. The chief merit of the volume, however, is not in the typographer's art, but in the intrinsic work by the author.

He introduces the volume by a quotation from Daniel Turner (1714), apparently reproduced in *fac simile* of type and phraseology, as follows:

> "I shall make no apology for spending as much Time, or taking the same Pains to remove the Blemishes incident to the Face by some, as I have done to retrieve a former good Complexion lost by other kinds of Illness. And therefore if I have given Instructions how to abate the fiery red Complexion of the Face, and to level those monstrous Blotches or Pustules, with other Breakings out, that so much disfigure it, and take off from its Comeliness and Beauty; I cannot think the Talk below the Dignity of a Physician."

No apology is needed in the introduction of such an exhaustive treatise. The author designed it to be a companion volume to his treatise on Eczema. He has adopted the suggestions of some of the reviewers of the latter, and added illustrative cases.

There is a separate chapter on therapeutics, an appendix apparently inseparable from treatment of skin-diseases, and embracing a broad range of formulæ.

The wood-cut illustrations are superb, not only those selected from Sappey and Simon, but those signed with the initials G. T. E., presumably Dr. G. T. Elliott, are worthy of all praise.

The bibliography of the subject is very large, filling seventeen pages in much smaller type than the body of the book, and if not complete, will hardly be detected, without it should fall into the hands of the bibliographer of the Library of the Surgeon General's Office.

The American school of dermatology are doing telling work for the reputation of scientific medicine in this country, and Dr. Bulkley in this and other works deserves a large share of the credit.

A TREATISE ON NERVOUS DISEASES; THEIR SYMPTOMS AND TREATMENT. A Text-Book for Students and Practitioners. By SAMUEL G. WEBBER, M.D. New York: D. Appleton & Co., 1, 3 & 5 Bond Street. 1885. Pp. 415.

This book was not written for specialists, but "for students and general practitioners who have little time to read." It is essentially practical, and presents this most difficult division of medicine in a manner which other authors have aimed at in vain.

A "General Introduction" is given in the first chapter, describing the methods of examining sensation and motion. Special and proper emphasis is laid upon the use of the ophthalmoscope "for a satisfactory examination of patients with diseases either of the brain or of the spinal cord, and it is better to use it in every case, no matter what the disease is supposed to be." The various reflexes are clearly and practically described, that part especially which is quoted from Gowers will be carefully read. The author thinks that the diagnostic significance of the *tâche cérébrale* is of less value than was formerly supposed.

The chapter on anatomy and physiology is very short, and has added to it general symptomatology of great value.

Diseases of the membranes, change in blood-supply, hæmorrhage, occlusion of cerebral arteries, tumors of the brain and abscess of the brain are the heads under which the pathology of the brain and its membranes are treated. In speaking of abscess of the brain and the causes which lead to it we think more stress might very properly have been laid upon the dangers of inflammation of the ear leading to abscess of the brain. It is true the author does not neglect to point it out, but we believe such abscesses were remarkably common during the early part of last spring.

The spinal cord is not considered—its anatomy, physiology and general symptomatology—followed by pathology and treatment of disease of the meninges and cord. Diseases of the peripheral and sympathetic nerves, including simple neuritis, neuralgia, local and post-febrile paralysis, spasm and diseases of the sympathetic occupy five chapters. Lastly, unclassified diseases—vertigo, chorea, paralysis agitans, epilepsy, hysteria, neurasthenia, tetanus, myxœdema, toxic neurosis and syphilis of the brain conclude the volume.

We note in passing a few slight points which are at variance with clinical observation. Under the etiology of chorea, the author gives on the authority of *on dit* that "the colored races are more likely to be attacked than whites." In a practice of twenty years among the negroes the writer has seen only one case of chorea among those of pure blood, while the mulattoes are rather more prone to it than the whites. In this latitude (34-30°), which may be considered a "warm climate," chorea is unusual in either whites or blacks.

The author's acquiescence in the causative influence of syphilis in the production of locomotor ataxia showed how rapidly accumulated experience on this subject has set aside the contrary opinion held only two or three years ago, and serves to show also how thoroughly his work is written up to the current of medical progress.

We predict that this work will become a favorite with those for whom the author has written it, and that its popularity will be founded upon the careful and concise symptomatology, and the practical turn given to each chapter.

### REMINISCENCES AND MEMOIRS OF NORTH CAROLINA AND EMINENT NORTH CAROLINIANS. By JOHN H. WHEELER.

We have noticed the preceding numbers of this work as they have been issued, and we come to the conclusion of it with much disappointment that so much valuable material has been so badly edited, and that so much that is merely advertising biography should have been placed side by side with some of the proudest records of Carolina's sons.

Doubtless this work will be consulted by the future historical scholar, and if he happens to have the true instinct of a student he will avoid the immaterial and accept the substantial as far as he has vouchers. But who will be able to fill up the gaps and give anything like a true perspective to what is recorded! Few as are the books on North Carolina history, it would be far better to await patiently the birth of the true historian than accept this volume as a substitute.

### QUARTERLY BULLETIN OF THE CLINICAL SOCIETY of the New York Post Graduate Medical School and Hospital.

This is the first number of this new periodical issued under the editorial management of Dr. Seneca D. Powell and four other members of an Executive Committee. This number has an interesting article on "Phthisis and Pneumonia in their Relation to Syphilis," by Dr. Wm. H. Porter, noticed in our last journal. The article is illustrated by a chromo-lithograph, showing the lesions in a syphilitic lung.

The upper half of the lung has a number of large cavities, and the lower half shows syphilitic pneumonia and a large number of miliary gummata.

A TEXT-BOOK OF PHARMACOLOGY, THERAPEUTICS AND MATERIA MEDICA. By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S. Adapted to the U. S. Ph. by FRANCIS H. WILLIAMS, M.D., Boston. Philadelphia: Lea Brothers & Co. 1885. Pp. 1035.

The author recalled from the publishers the material he had prepared and announced as being ready to issue from the press some years ago. The book as it now stands, the author says, has been reduced in size, some doubtful points have been cleared up, and the general plan of the work altered.

A large section of the work is devoted to the action of drugs, and especially an account is given by which the action of drugs is determined. The author's experience in teaching has shown him that "students sometimes find a difficulty in applying physiology to pharmacology and therapeutics," "and that many there are, like myself [Dr. Brunton], apt to forget those parts of physiology which they are not constantly studying." He has therefore given a short account of the normal functions of the different parts of the body, before he proceeds to discuss the alterations which are produced in them by drugs, or which they undergo in disease. He has also discussed pathological questions when it becomes necessary to render the action of drugs more intelligible. The Second Section is a short description of general pharmacy, and is very little more than a copious inventory of pharmacopœial effects.

The Third Section describes the Inorganic Materia Medica, and the Fourth the Organic Materia. The Fifth Section describes the Vegetable Materia Medica after the usual botanical sequence, and the Sixth and closing Section, the Animal Kingdom. The wood-cut illustrations are not always successful, and the illustration of a solitary allspice would hardly impress the shape of the fruit upon a student's mind.

The indexes are copious and very valuable, viz: a general index, in alphabetical order; index of diseases and remedies, and a bibliographical index, with subjects alphabetically arranged, and under each heading citations of author, volume and page, greatly facilitating the search for further information or the verification of quotations.

A complete analysis of this volume could not be made in several numbers of the JOURNAL, if it were desirable. It will take a high place among the works on therapeutics, because of the introduction to the laboratory study of therapeutics, and of the original work of the author, and the adaptableness of the teaching to the use of the practitioner. Happy the student who gets such a volume to shape his first knowledge of therapeutics! for he will not only escape the obsolete matter which his seniors have to unlearn, but he will be taught how physiology and pathology are to be made to elucidate it.

For the students' sakes, though, we hope that no such erroneous idea will gain ground, that it is not necessary to study the nature of crude drugs. It is quite the fashion now to quote Dr. Sharpey's saying that "You may as well require of a medical student a knowledge of the whole art of cutlery before you set him to dissect." If the student who is preparing himself for practice in the sparsely settled South neglects pharmacy and materia medica, he will not be more than half prepared to practice medicine. He is not unfrequently compelled to be his own druggist, and this he cannot do until he has learned to recognize drugs and the art of preparing them.

The typographical errors in this volume are quite noticeable, a fault which seldom blemishes the volumes which issue from the press of the Messrs. Lea. It is beautifully printed, and, with the exhaustive and accurate indexes, will entice not only thorough reading by the student, but the practitioner who has only time to call in at his office a half hour from his busy rounds.

A TREATISE ON EPIDEMIC CHOLERA AND ALLIED DISEASES. By A. B. PALMER, M.D., LL.D. Ann Arbor, Michigan: Register Publishing House. 1885.

This little volume has the decided merit of being founded upon the experience of the author in three seasons of epidemic cholera. The historical account of its ravages, the description of the disease and its treatment are as clearly and reliably written as we remember to have seen it. The cholera alarm is over for the season, and special treatises on this subject have lost much of their interest, but this work may be put away safely in the library as as sound an exposition of the topic as can be found, and the sad time may yet come when we will gladly drink in the pages which are stored with actual experiences.

**Syrup of Hydriodic Acid** (U. S. Ph., containing one per cent. absolute hydriodic acid) is introduced as a remedy in acute inflammatory rheumatism by Dr. James Craig, of Jersey City. In his hands it shortens the attack, relieves the pain, reduces temperature and leaves the patient without any heart complications. The dose is two to three teaspoonfuls in a wineglass of water every two hours, lessening the dose as improvement takes place, but continuing it for about a week or ten days. It has no good effect upon subacute and chronic rheumatism.—*New York Medical Journal—Therapeutic Gazette.*

**Peptonizing Ferment** resides in the milky juice of the common fig (*Ficus carica*). In its effect on fibrin and the coagulation of milk this ferment resembles pepsin. It also produces diastatic reaction in the conversion of starch into sugar, and a syrup made from dried figs has the same peptonizing property as fig milk. These facts suggest the possible usefulness of a fig syrup for children as an adjunct to the various starchy foods so much in vogue.—*Pharm. Journal—Therapeutic Gazette.*

**Trichloracetic Acid.**—This substance is said to be an excellent antiseptic agent. Dr. Filipovich has employed it with success in an aqueous solution of the strength of 2½ to 5 per cent. in the treatment of wounds, erysipelas, soft chancre, etc. He has also given it internally in gastric catarrh and cancer, in doses of 2 to 4½ grains (0.12 to 0.30 gramme) for adults.—*N. Y. Medical Record.*

**Saponin in Yucca Angustifolia** contains an emulsifying agent similar to quillaia, the former containing 10.4 per cent., the latter 8.82 per cent.

# EDITORIAL.

## THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

## THE FALSE POSITION OF THE COMMITTEE OF THE AMERICAN MEDICAL ASSOCIATION RESOLUTELY ADHERED TO.

Discussion, so far, has done little to stay the ruinous course pursued by the malcontents of the New Orleans meeting in regard to the International Congress. The new combinations of the Chicago and New York Committee meetings have only made a bad matter worse.

When we look back upon the whole affair from this standpoint, we cannot help feeling that those gentlemen who represented the International Medical Congress made a very unwise move in asking the American Medical Association to take any part in the construction of the forthcoming meeting. These gentlemen would have done far better by taking the whole responsibility upon themselves, and this course would have been satisfactory to the members of the last Congress, the evidence of which we have in Sir James Paget's letter to Dr. Hays.

The discourtesy of the American Medical Association towards the original committee seems not to occur to the reconstruction committee, and there can be but one interpretation of the whole matter—the new committee intends to organize a Congress upon a basis so objectionable that it has already divided the profession into two parties. If the gentlemen composing this new organization are willing to undertake it, they cannot be prevented, but it would be well if they could be, both for the success of the Congress and the unity of the profession.

We have written the above lest by silence it might be thought that this JOURNAL has altered its views upon the subject. The American Medical Association has made a false step, and it will be exceedingly fortunate if it recovers from it, without estranging some of its most desirable members.

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## GROSSLY IMPROPER ADVERTISEMENTS IN THE NEWSPAPERS.

No one but physicians in their daily intercourse with sick people know how credulously the advertisements in newspapers vaunting cures are read and remembered by them. Among educated patrons it is not at all unusual to see one or more bottles of the latest sensation among the most skilfully advertised "kidney cures," or "liver regulators," or "blood purifiers," and that, too, in houses where the doctor is making daily visits. The proprietors of these nostrums are deeply skilled in that branch of their business which makes the most telling impression upon the public, and therefore devote very much of their ability—(yes, and ability which, if used in any other way, would secure an *honest* living) to the most expensive part of their business, that of preparing cunningly devised descriptions of disease for the advertising columns of the newspaper.

It is becoming more and more offensive year by year—the liberty which newspaper proprietors take with their subscribers. The voices which are raised against the abuse are not numerous enough to make the proper impression upon the newspapers, simply because protests against the abuse are not welcome to the columns of such newspapers, as they would cut off a very profitable source of revenue. So far as we are aware the protests against these vile and filthy advertisements of nostrums have come from the medical press, and such papers as the *Nation* and *Churchman*, the latter papers making the most effectual of all protests by excluding them from their advertising columns.

On a former occasion we noticed an indecent advertisement, lauding an electric perineal band, and illustrating its wonderful effects for the cure of sexual impotence by a wood-cut showing the flashes of electricity radiating from the scrotum and perineum. Now there comes from a Southern nostrum dealer a medicine to make childbearing easy. The minute particulars of this remedy are detailed in the columns of a daily newspaper which reaches a large number of readers and is attractive in every respect.

What is the remedy for this violation of the reading public's rights? There is no doubt at all that every issue of such a paper should be promptly burned before it reaches the hands of the young folks in a household, if, by reason of being the only newspaper in the community, it must be admitted under the roof, and that other reading should be supplied. As long as heads of families submit to having indecencies in a printed shape frequently under the eyes of their daughters and sons, and upon subjects which no tolerably decent person would dare to mention, some newspapers will impose them upon the household.

To talk of the inculcation of purity among our children in one column and tempt their prurient desires in another, is a defenceless inconsistency, even if it should not be called by a more offensive, but more correct, epithet.

# CURRENT LITERATURE.

## ACTION OF DRUGS ON THE LIVER.

*From Brunton's Pharmacology, Therapeutics and Materia Medica.*

The liver is by far the largest organ in the body, and it is placed in a very peculiar situation. It acts as a porter or door-keeper to the circulation, all the substances which are absorbed from the intestinal canal having to pass through the portal vein and the capillaries of the liver before they can enter the general circulation.

The liver, therefore, seems to have a most important function in destroying the poisonous properties of peptones, and perhaps other substances produced during digestion, and possibly also of poisonous products of tissue waste. The peptones are converted by it into sugar and glycogenic substance.

Drugs which act on the liver are usually divided into stimulants and cholagogues and into hepatic depressants.

It has been for a very long time a matter of clinical experience that the administration of mercurial purgatives was frequently followed by the discharge of greenish, bilious-looking evacuations and a great improvement in the general condition of the patient. These two results were classed together as cause and effect, and the improvement was considered to be due to the removal of bile. It was then supposed that the bile was formed in the blood and simply excreted by the liver, and therefore the bilious-looking stools were ascribed to stimulations of the secreting function of the liver by the mercurials. Hepatic stimulants and cholagogues were therefore considered to be identical. We now know that the bile is formed in the liver, and not simply excreted by it from the blood, and that bile formed in the liver may again be absorbed into the blood. Increased functional activity of the liver might thus lead into the presence of a greater instead of a less quantity of bile in the blood. Recent experiments have also shown that one of the most marked cholagogues which we know, viz: calomel, appears rather to diminish than to increase the actual secretion of bile, so that we are now obliged to distinguish between hepatic stimulants and cholagogues.

Hepatic stimulants are drugs which increase the functional activity of the liver and the amount of bile which it forms. Cholagogues are substances which remove bile from the body, possibly by acting rather on the intestines; they do not necessarily increase the secretion of bile, they may only prevent its reabsorption, and thus diminish the quantity in the circulation. Hepatic depressants are drugs which lessen the quantity of bile secreted by the liver.

In relation to tissue waste, it is not to be forgotten that the products of the functional activity of our organs are not only poisonous to itself, but may be poisonous to other organs. Thus the waste products of muscular activity gradually poisons the muscle and prevent its contraction, although as soon as they are washed out with salt solution the muscle recovers its power.

Lactic acid also, which is a product of muscular waste, is poisonous, not only to the muscle, but to some extent to nerves, and lessens the functional activity of the brain and produces sleep. At the same time it is impossible that these waste products, poisonous in themselves, may through slight changes be rendered available for nutrition, just as peptones, which are themselves poisonous, are most important foods.

Besides acting on peptones, the liver seems to have the power of destroying the poisonous products of some vegetable alkaloids. For example, 1-20th of a drop of nicotin given to a frog does not produce death, but 1-40th is sufficient when the liver has been previously removed. Conia, cobra poison, hyoscyamin, all exert much less poisonous action after they pass through the liver, before they reach the general circulation, than they do when injected directly into the blood. Curare, prussic acid and atropia, on the other hand, do not have their action modified.

The result of these experiments may be partly explained on the supposition that a good deal of the poison has been excreted along with the bile, and has thus been prevented from reaching the general circulation. But it is probable that in addition to the function of excreting poisons, the liver has also got the power of destroying poisons, and, it may be, the power of removing poisons from the circulation by merely storing them for a time.

In relation to this subject it is interesting to bear in mind that alkaloids, to which the name of ptomaïnes has been given, are found in dead bodies during the process of decomposition, and that when a solution of peptone is treated in the same way, a solid non-volatile alkaloid is obtained.

Ptomaïnes are not only formed in dead bodies, they are also formed in the intestine by the decomposition of parts of its contents. They have been found in large quantities by Bouchard, both in the stools of persons suffering from diarrhœa or typhoid fever, and in normal fæces. They appear to be absorbed from the intestine into the blood and excreted by the urine. They have been found by Bouchard in the urine, both in health and disease, and Bocci has shown that the human urine has a paralyzing action on frogs like that of curare or of the ptomaïnes which Moses and Guareschi have obtained from putrified fibrin or brain.

Sometime ago I pointed out the resemblance between the languor and weakness which occur in many cases of indigestion and the symptoms of poisoning by curare, and drew attention to the probability that the languor was due to the effect of poisonous substances absorbed from the intestine. These I considered to be probably peptones, but it is possible that they may be ptomaïnes, the function of the liver is equally important in preventing them from reaching the general circulation.

Bearing in mind, then, the office of the liver as a porter to prevent the passage of injurious substances from the intestinal canal into blood, and the great effect that any alteration in the circulation through it may produce upon the circulation, and consequently upon the functions of all the intestinal organs, we will much more readily understand the importance of this gland, the largest in the body, than if we look upon it simply as an instrument for secreting the bile which plays a useful, but still subordinate, part in the process of digestion.

We are still but imperfectly acquainted with its functions, but we may say that they are at least five :

1. To form and store up glycogen, a material which will afterwards be used in evolving heat and muscular energy : it will thus, as it were, perform the office of a kind of coal-bunker to the body.
2. To secrete bile for use in digestion.
3. To excrete bile.
4. To destroy peptones which are poisonous when they are directly introduced into the general circulation, and to convert them into glycogen, etc.

5. To destroy or store up and excrete other organic poisons which may have been formed in the alimentary canal during the process of digestion, or may have been introduced into it from without.

The glycogenic function of the liver is influenced by a number of drugs, especially phosphorus, and substances belonging to the same chemical group. Phosphorus, arsenic and antimony all destroy the glycogenic function, and at the same time tend to cause fatty degeneration of the organ. It is possible that these effects of the poisons are closely connected, but the exact connection between them has not yet been ascertained.

In consequence of the disappearance of glycogen from the liver which is caused by these drugs, puncture of the fourth ventricle will no longer cause glycosuria in animals which have been poisoned by them. Attempts have been made to utilize this fact in the treatment of diabetes, but as yet the results have not been very satisfactory.

*Hepatic Stimulants.*—The action of drugs on the secretion of the liver has been very carefully studied by some observers, especially by Röhrig, Rutherford and Vignal. The mode of experimenting was to curarize a dog, ligature the common bile duct and insert a cannula into it. The bile was thus entirely prevented from reaching the intestine, and the whole of it flowed through the cannula into a vessel in which it was collected, so that the amount secreted in a given time was readily estimated. The drug was then administered, usually by injection, into the duodenum, and the increase or diminution which this caused in the bile was noticed.

The indigestion of food greatly increases the secretion of bile, and in order to get rid of this disturbing factor, the experiments were all made on fasting animals.

A great number of drugs were experimented upon, some of which were found to stimulate the liver, and increase the quantity of bile without altering its quality, so that their action upon the liver would be nearly analogous to that of laxatives upon the intestine; others increase the quantity of bile and render it more watery; others again had little effect upon the liver, but stimulated the intestinal secretion and movement.

The following are hepatic stimulants:

Acid, dilute nitro-hydro-chloric.[1]
Aloes.[1]
Rochelle salt.[3]
Sodium sulphate.[2]

Sodium phosphate.[1]
Mercuric chloride.[1]
Sodium benzoate.[1]
Baptisin.[2]
Hydrastin.[2]
Iridin.[1]
Phytolaccin.[1]
Sanguinarin.[1]
Colocynth.[1]
Rhubarb.[2]
Potassium sulphate.[2]
Sodium salicylate.[1]
Ammonium benzoate.[2]
Euonymin.[1]
Juglandin.[2]
Leptandrin.[2]
Podophyllin.[1]
Colchicin.[1]
Jalap.[2]
Ipecacuanha.[1]
Physostigma.[3]

The most powerful stimulants in the precedidg list are indicated by (1), the less powerful by (2) and (3).

Those drugs which stimulate the intestine much as a rule increase only slightly the secretion of bile by the liver, and podophyllin, which in certain doses acts as a powerful hepatic stimulant, ceases to have this effect when it produces marked purgation. These effects occur independently of the action of the drugs on the reabsorption and resecretion of bile, inasmuch as in the experiments quoted the whole of the bile was collected directly from the liver and not allowed to pass at all into the intestine.

*Cholagogues.*—In making similar experiments, however, Schiff observed that the secretion of bile was very much greater for a short time immediately after the bile duct was tied than it was later on; and on further investigation he found that this was due to the fact that the liver has a double function: it not only forms new bile, but resecretes the old bile which has been reabsorbed from the intestine. A certain quantity of bile is lost in the fæces, but a considerable portion of it seems to be utilized again and again; being formed by the liver, poured out into the intestine, reabsorbed and again excreted. This circulation of bile between the intestine and the liver has been called by Lussana the entero-hepatic circulation. It has been shown that the bile which is absorbed from the duodenum of a guinea-pig does not.

Not only is bile re-excreted in this manner by the liver, but other substances also, such as medicines and poisons, are likewise excreted. The absorption and re-excretion takes place with great rapidity, for Loffter, in some experiments made under Heidenhain's direction, found that rhubarb injected into the duodenum appeared in the bile in less than five minutes. Substances injected into the blood were also excreted by the bile with great rapidity, so that sulphindigotate of soda introduced directly into the circulation in some experiments, began to color the bile blue one minute after its injection. Other substances are also absorbed from the intestine and excreted by the liver and passed round in the entero-hepatic circulation, just like the bile. Curare is one of those, and to this probably is due, in a great measure, the absence of fatal effect from its introduction into the stomach. Iron also circulates with the bile, and it is probable that the beneficial effect of large doses may be due, in part, to the action of the iron upon the liver. The objection has been raised to the use of large doses as they are useless, inasmuch as the whole of the iron which is taken into the mouth is again expelled in the fæces, but there can be no doubt that clinically large doses of iron are sometimes beneficial. Copper and manganese also appear in the bile, and it is probable that lead and all the heavy metals pass chiefly out of the body by this channel.

It has been suggested by Lussana that the malarial poison also circulates in the entero-hepatic circulation.

From the fact that bile is reabsorbed from the intestine, it is obvious that an hepatic stimulant which simply increases the secretion of the bile by the liver, will not of itself act as a cholagogue and remove the bile from the body. In order to do this, this action must be combined with increased persitaltic action of the bowels, which will hurry the bile out and prevent its reabsorption. If, in addition to increased peristalsis, we have increased secretion from the intestinal mucous membrane, so as to wash out the intestine, we shall get the bile still more effectually removed from the body. The necessity for such a combination has indeed been long ago shown by clinical experience, and the advantages of following a mercurial pill by a saline purgative in order to clear it away, have long been recognized. Some hepatic stimulants increase also the peristaltic movements and secretions from the intestine; for example, those,substances which have been already enumerated as cholagogue purgatives:

Aloes,
Baptisin,
Colchicum in large doses,
Colocynth,
Jalap,
Podophyllin,
Rhubarb,
Sulphate of potash.
Sulphate of soda,
Mercury salts.

In most cases, however, it is advisable to combine hepatic and intestinal stimulants in order to insure a more cholagogue effect. Thus calomel, as employed in Rutherford's experiments, has no stimulant action on the liver, but stimulates the intestinal glands; corrosive sublimate, on the contrary, stimulates the liver powerfully, but has a very feeble stimulant action on the intestine; a combination of the two stimulates both the liver and the intestinal glands. When used in medicine, calomel is recognized to be a powerful cholagogue, one of the most powerful, indeed, that we possess, and it is by no means impossible that a small portion of it may be converted into a corrosive sublimate in the intestine, so that we thus get from the calomel, when given alone, the combined effects of both the mercurial preparations just mentioned. It is perhaps more probable, however, that the cholagogue action of calomel may be due to its having a peculiar stimulant action on the duodenum and ileum, so as to hurry the bile along the intestine and prevent its reabsorption. The reason for supposing that this is the case rather than that part of it is converted into corrosive sublimate and stimulates the liver, is that when given to dogs with a permanent fistula, it does not increase the flow of bile, which it would probably do if any corrosive sublimate were formed. Another is that after the administration of calomel, leucine and tyrosine, which are products of pancreatic digestion, are found in the stools, and it seems not improbable that their appearance under such circumstances is due to their having been hurried along the intestine from the duodenum to the anus, and evacuated without time being allowed for their absorption or decomposition in the intestine.

*Adjuncts to Cholagogues.*—The pressure under which bile is secreted is very low, so that a very slight obstruction to its flow through the common bile duct is sufficient to cause its accumulation in the gall-bladder and gall-ducts, and thus to lead to its re-absorption. This is readily observed in cases of catarrh, either of the duodenum or of the gall-ducts. In such cases the use of the ipecacuanha is indicated. It has been found clinically to be of great service, and it probably acts by lessening the tenacity of the mucus in the gall-duct, and thus tends to remove the obstruction in front, while at the same time it increases the pressure behind by stimulating the hepatic secretion. The movements of the diaphragm have a powerful action in aiding the expulsion of bile from the liver; they do this to a certain extent in the ordinary respiration, but their effect is much greater in forced respiration. Exercise, therefore, tends to expel bile from the liver and prevent its accumulation in the biliary capillaries, but a little brisk exercise, as in riding, rowing, climbing, tennis, etc., will have in a few minutes a more beneficial action than a lazy constitutional walk of a couple of hours. .

The secretion of bile is not only increased, but the pressure under which it is secreted is raised by sipping fluids. This is in all probability due to nervous influence, for it has been shown by Kronecker that taking a liquid in numerous small sips will for the time completely abolish the inhibitory action of the vagus on the heart. It is probable, in consequence of this fact, that Carlsbad water, when taken in numerous sips for an hour or more, as at Carlsbad itself, is so exceedingly efficacious in hepatic diseases, while sodium sulphate, which is the main constituent of the water, was found by Rutherford to have only a very slight action as a stimulant on the liver."

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## NOTES FROM THE REPORT OF THE GERMAN VACCINATION COMMISSION, SHOWING THE VALUE OF VACCINATION.

*Prussia.*—Up to 1870 the mortality from small-pox was fairly steady, but was temporarily increased by an epidemic outbreak every 10 or 12 years. The average yearly mortality in the interval between the epidemics was about 15 to 20 per 100,000 of population, but during the epidemic periods it reached to between 40 and 60 yearly for about two years.

In 1871–72 the great small-pox epidemic broke out, in connection with the Franco-Prussian war, the deaths being 243 and 262 per 100,000 for these years respectively.

In 1873–74 the mortality sank very low, viz: to 35.6 and 9.5 respectively, as is usually the case after severe epidemics.

In 1874 the law making revaccination compulsory came into force.

From 1875 onwards the influence of this law is apparent. Whilst without the law the small-pox mortality would soon have reached its usual figures again, it now fell to, and has persistently remained at, a lower figure than any since the beginning of this century. Thus, while up to 1873 the mortality from small-pox per 100·000 of population had only on six occasions in 57 years been as low as 10, or near it—once as low as 7.3 in 1856—and was usually 15 to 20 yearly, nearer the latter than the former, it sank the very next year after the Vaccination Law of 1874 to 3.6.

| | | |
|---|---|---|
| In 1876 it was | 3.1 | per 100,000 |
| " 1877 " | 0.3 | " |
| " 1878 " | 0.7 | " |
| " 1879 " | 1.2 | " |
| " 1880 " | 2.6 | " |
| " 1881 " | 3.6 | " |
| " 1882 " | 3.6 | " |

That this diminution was really a consequence of compulsory vaccination, and not merely an after-effect of the epidemic of 1871–72, the following comparative statistics show:

*Austria.*—Previously to 1871 the small-pox mortality behaved much like that of Prussia, but was higher on the whole.

In 1872–73–74 the last great epidemic gave epidemics of 190, 323.3, and 178 respectively, per 100,000 of the population. This epidemic was more fatal and lasted longer than the Prussian epidemic. Afterwards the mortality fell, as in Prussia, to lower figures. In 1875 it was 57.7; in 1876 39.2. Here the influence of the previous epidemic ceased, and the mortality rose at once to its old figures, and even higher. Thus:

| | | |
|---|---|---|
| In 1877 it was | 53.7 | per 100,000 |
| " 1878 " | 60.6 | " |
| " 1879 " | 50.8 | " |
| " 1880 " | 64.3 | " |
| " 1881 " | 82.6 | " |

This rise was not merely temporary, for in 1880 and 1881 small-pox prevailed as much as it used to before the great epidemic of 1872. Authentic figures are wanting for the last two years, and cannot therefore be given.

Comparison of the small-pox mortalities in Austria and Prussia, respectively, since 1874, shows that the remarkable and persistent decline in the latter country can only be due to the vaccination law, for all other conditions remain the same as before in the two countries.

*Small-pox mortality per* 100,000 *of the population in a number of German cities, contrasted with that of other cities, from* 1870 *to*

1883. *N. B.—Revaccination compulsory in the former only* (*since* 1874.)—Both German and other cities suffered severely from the small-pox epidemic in the beginning of the last decade. But, whilst in all cities outside Germany the small-pox mortality, after a temporary decline, has risen again to considerable heights, in all the German cities (as in Germany as a whole), it has persistently remained extremely low.

Hardly a better illustration of the effect of the vaccination law of 1874 can be afforded than the comparison of the small-pox mortality of such cities as Breslau and Vienna, Dresden and Prague, Berlin and London, etc.

*Small-pox cases and deaths in the German, Austrian and French armies, per* 100,000, *from* 1867 *to* 1883.—Like the general population of the countries in question, the armies suffered greatly from the severe epidemic of 1870–71. As to the French army, reliable statistics are wanting, but it is certain that its losses were very great.

During the Franco-Prussian war the German army suffered by far the least of the two armies, though coming into contact in France with a population amongst which small-pox was rife.

The war in itself, with its fatigues and deprivations, could not have caused the great increase of small-pox mortality, for the Austrian army suffered even more severely in the same epidemic. The only difference as regards small-pox between the three armies consisted in this, that the Austrian and French armies were scantily revaccinated, and resided amongst an imperfectly vaccinated population, whilst the German army enjoyed the advantage of efficient revaccination and the relative protection of a community almost free from small-pox.

The harmful influences of a community affected by small-pox, and the relative protection afforded by a community free from this disease, are at once apparent from an inspection of the table of small-pox cases in the German army, for it must be admitted that revaccination had already been practised in the German army for several decades, with a fair degree of carefulness. In spite of this, however, the small-pox cases were more numerous from 1867 to 1869 inclusive, than after the general vaccination law of 1874. No other explanation can be given for this than that, just as during the war, small-pox in the army increased considerably in consequence of its being brought into contact with much small-pox in France, so the same result must often have occurred before at home, when there was more small-pox amongst the civil population.

It is worthy of remark that not a single case of death from small-pox has occurred in the German army since 1874, whilst both the Austrian and French armies still show a very high small-pox mortality. No other reason than the influence of a system of vaccination and revaccination, rigidly carried out, can be made to account for the striking difference between the amount of small-pox in the German army and that in the two armies above mentioned.

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## THE PRACTICE OF ARTIFICIAL ANÆSTHESIA—ANÆSTHETICS.

A very instructive, and probably a very fruitful, discussion recently took place before the Section of Pharmacology and Therapeutics of the British Medical Association. It was opened by Dr. Dudley W. Buxton, Administrator of Anæsthetics at University College Hospital. He did not attempt to discuss all the agents suggested for anæsthesia. He summarized the prevailing views to explain anæsthesia as follows: (1) That they act by lessening oxidation of the tissues. (2) That they induce physical changes in the blood, which in their turn induce anæsthesia. (3) That they produce anæmia of brain. (4) That they are capable of affecting nervous tissue directly. Quoting Dr. B. W. Richardson, that there are many agents, such as nitrite of amyl, powerful stayers of oxidation, which do not assume the part of anæsthetics. Hence he thinks the statement that "narcotism is suspended oxidation" must be taken as "not proven." Nor would the second theory survive the test of experiment. The theory based upon the assumption that anæsthesia supervenes upon anæmia of the brain seems to be a case of *post hoc non propter hoc.* Cerebral anæmia certainly supervenes on sleep, and on the torpor provoked by anæsthetics. "In the functionally active anæmic brain of the frog, chloroform will induce narcosis. We therefore have to fall back upon an hypothesis which formulates that the action of this group of anæsthetics is one exerted upon the nervous system itself. We shall also see that to this view a rider will have to be appended, to the effect that this action is one which falls upon the protoplasm of the nervous and muscular systems?

Different anæsthetics are then taken up, beginning with chloroform. He does not find chloroform to be the ideal anæsthetic. "We are seeking," he says, "for simple loss of sensibility, and we have found that the agent employed [chloroform] attacks the vital centres. The respirations, after an initial retardation, are found to become more shallow; their rythm may be increased, but, whether or not, there is lessening of amplitude and depth, and, at length, respiratory movements cease. Consecutive upon the cessation of respiration, we find that the pulse weakens and intermits, the heart eventually stopping. * * * None will deny that such deaths occur; about the exact etiology we cannot be so sure. * * * There seems to me no doubt at all that chloroform is a powerful protoplasm-poison, and as such its use must be fraught with danger. That chloroform is much maligned, I believe; but I venture to think that the dread of it is wholesome. Another point telling against chloroform is that it depresses the bodily temperature, and so conduces to promote the effect of shock."

He next discusses whether any other agent "fulfils the canons requisite for the ideal anæsthetic," and discusses the properties of ether. "Ether has been accused (1) of killing patients by asphyxiation from spasm of the glottis; (2) of killing by provoking pulmonary mischief, bronchitis, pneumonia, etc.; (3) of paralyzing the respiratory movements; (4) of inducing syncope. Syncope does certainly occur during ether-administration, although very rarely." * * * "Death from spasmodic closure of the glottis is so rare as practically to be unimportant, save as a means of pointing a moral; for such cases are certainly due to the administration of too powerful a blast of ether to a timid patient." * * * "Death from chilling of the pulmonary mucous membrane giving rise to pneumonia, or, through the direct irritation by the pungent ether vapor causing tracheitis and bronchitis, does in a certain number of cases occur. Sédillot found, experimentally, that dogs got pneumonia when ether was introduced through an opening in the trachea. Mr. Lawson Tait, recognizing the dangers, invented an apparatus for preventing coid air from entering the lungs. That there is considerable danger of these occurrences in the case of young and delicate children, I am pretty certain."

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"Ether falls short of the ideal as an anæsthetic, in so far that it travels beyond merely annulling sensation, and attacks vital centres. However, considering the great volatility of ether, and that the advent of apnea is heralded by marked signs, while the heart remains in active function even after apnea, we have a far less alarming symptom with which to deal than in the case of chloroform-apnea."

There is not room to give our readers the voluminous discussion which Dr. Buxton's paper drew forth, but we submit an abstract on the same subject by Mr. John Chiene, Professor of Surgery in the University of Edinburgh.

"During these twenty years I have been present at one death which undoubtedly occurred in consequence of severe stretching of the second division of the fifth nerve, acting reflexly and suddenly stopping the heart. Looking back on that case, I am of opinion that, if the patient had been more deeply under the influence of the drug, the death would not have happened. I felt at the time that I was greatly to blame, as I was standing beside the administrator. My house-surgeon had a fatal accident when amputating a finger in January 1880. This case is described in the *Edinburgh Medical Journal* May 1880. No death has occurred in any patient on whom I have myself been operating. I have every now and then been very anxious, but forcible pulling forward of the tongue has dispelled the dangerous symptoms, and artificial respiration has not been found necessary. The main danger encountered has been difficulty of breathing from laryngeal obstruction, accompanied by lividity, in which the methods described in the paper have not been adopted sufficiently early, and in which engorgement of the blood-vessels in the lungs and the right cavities of the heart has resulted secondarily. Occasionally there has been pallor, indicating weakness of the heart's action, either from loss of blood or from shock, due to an imperfect abolition of the reflexes, from an insufficient quantity of chloroform having been administered. I have never had a case in which the cardiac centres have been directly acted upon by the chloroform. I have never required to bleed from the external jugular vein in cases of secondary engorgement of the heart mentioned in the paper. I have on several occasions, however, found great good from encouraging venous bleeding at the wound in such cases.

"After the death which occurred in my wards I gave ether a trial for one year, with Ormby's inhaler; one of my patients died on the day after the operation, with severe bronchial symptoms, referable, in my opinion, to the ether. Either had also this advantage, that the patient often suffered from continuous sickness for two or three days after the administration. I then returned to chloroform, using an injection of atropine and morphine twenty minutes before administration. My attention was directed to the value of this combination by my house-surgeon, Mr. W. H. Dobie, now of Chester. He learnt it from Prof. T. R. Fraser's lecture. It was first used in this form September 1880: Solution of hydrochlorate of morphine ℥ i, solution of sulphate of atropine (freshly prepared) ♏ix. Ten minutes for hypodermic injection.

"The prescription now in use, since January, 1883, is—atropine 2-5ths of a grain, hydrochlorate of morphine 2 grains, distilled water 1 ounce. For hypodermic use: Ten minims=atropine 1-60th of a grain, morphine 1-12th of a grain.

"My head nurse, an experienced woman, whose duty it is always to be beside the patient after his or her return to the ward, and who has been with me since I became a surgeon in the infirmary, has observed that the patients complain greatly of thirst and dryness of the mouth, undoubtedly due to the atropine; even with this disadvantage, I am inclined to persevere with the preliminary injection of atropine and morphine, because physiologists speak so decidedly about the value of the drug in lessening the tendency to reflex inhibition of the heart's action. The after-sickness is unaffected by the use of atropine and morphine. I do not use the injection in children; it frightens them, and probably is not required. At one time I used to give brandy before an operation to try to prevent after-sickness. I could not satisfy myself of its value. I still, however, give it occasionally in nervovs and weakly people; it gives them courage, and has perhaps some effect in lessening the after-sickness. There is no fact which strikes me more than the great difference in different people as regards the after-sickness; in those in whom one might expect it, it does not occur at all, and *vice versa*. The same patient is sick at one time and not at another.

I think that the more chloroform is given the greater is the sickness, although this is by no means a general rule. One reason why I have persevered with the inhaler, described in the text, in hospital-practice, is with the hope of lessening the after-sickness, because with it undoubtedly less chloroform is required than with the towel. It is a question, however, whether the patient really gets less; the waste certainly is lessened.

"The present outcry against chloroform is the result of an imperfect understanding of (A) its physiological action; (B) the proper method of administration; (C) the dangers which may accompany its use, and their treatment; (D) the dangers which follow its abuse, and their treatment.

"The more perfectly the surgeon understands these considerations, the greater will be his confidence when called upon to give the drug. Confidence on his part will impart confidence to his patient; knowledge of the dangers may make him more anxious at first, until he gains experience, but this is surely safer for the patient than the ignorant confidence of the administrator who has not this knowledge. Ignorance may be bliss; knowledge certainly is power.

"A. *Its Physiological Action.*—Chloroform is, first, a stimulant; second, a sedative; when inhaled, it passes into the blood and poisons in a certain order the nervous centres.

"Its effects may be classed under five heads: 1. Abolition of voluntary motion. 2. Abolition of sensation. 3. Abolition of reflex action. 4. Stoppage of respiration. 5. Stoppage of the heart's action.

"Our object is to obtain the first three effects, and to avoid the fourth and fifth. It is not necessary to discuss the exact order in which these effects take place. The great practical fact is this, that the first three always precede the fourth and fifth when the stoppage of the respiration and heart's action is due to the chloroform. It is to be remembered that, when laryngeal obstruction occurs, respiration may cease from faulty or delayed treatment on the part of the administrator. The heart's action may cease from shock, too little chloroform having been given before commencing the operation. The action of the heart may also cease in consequence of engorgement occurring secondarily to a delay in the treatment of laryngeal obstruction. These dangers are preventable accidents, which may occur during the administration, and are in no way to be confounded with stoppage of the respiration and heart's action, directly due to a poisoning of the respiratory and cardiac ganglia by an overdose of the drug.

"Chloroform is a cumulative poison; after a person is once fully under its influence a very little more is required to place the patient in a dangerous condition.

"Chloroform is also a volatile poison; and even after the respiratory and cardiac ganglia are affected, if the patient is kept alive for a time by artificial respiration, the effects of the drug will pass off, unless the overdose has been excessive.

"B. *Proper Method of Administration.*—Simple means are the best. A towel or handkerchief is better than any apparatus. If any apparatus is used, then the administrator trusts to the apparatus. The only sure trust is knowledge of the action of the drug, its dangers and their treatment. It is a matter of no importance how much is poured on the towel, except as a matter of economy; what has to be carefully attended to is the effect of the drug upon the patient. The administrator has to give his entire attention to the effect of the drug; as in all drugs, so in chloroform, different patients require different doses in order to attain the proper effect. The administrator must use his brains, and have his catch-forceps attached to his coat. He must have confidence in himself.

"The flannel cap covering the nose and mouth, as first recommended by Dr. Skinner, of Liverpool, and as used in the eye-wards in the Edinburgh Royal Infirmary, is not so good in general surgical practice as the towel or handkerchief, because, as will be afterwards explained, it is by the sense of touch that we best judge of the respiration, and the cap over the nose and mouth prevents the hand from being next the mouth for this purpose.

"In hospital-practice, for the last eighteen months, I have used Allis' ether-inhaler, which was strongly recommended to me by Dr. George Beatson, of Glasgow. It is also used by Dr. Renton, of Glasgow. By it chloroform is saved, and it is a convenient method of administration. As a rule I think the patient drops more quickly under the influence of the drug. I understand it is to be shown at the Cardiff meeting. (See *Glasgow Medical Journal*, January, 1885.)

"The administrator must watch the breathing and the appearance of the patient. The sense of feeling with the hand between the towel and the mouth is the best guide to the breathing. The heaving of the chest is also to be watched. The heaving of the abdominal walls is deceptive, as this may be due to contractions of the diaphragm, which may continue for sometime without any air entering and being expelled from the chest. Voluntary stoppage of the breathing frequently occurs early in the administration. Experience will soon enable the administrator to understand this, and to distinguish it from stoppage of respiration, due to the action of the drug on the nervous centres which govern the muscles of respiration. The sense of hearing may also assist in enabling the administrator to judge of the breathing. In antiseptic surgery, the use of the steam-spray, accompanied by a hissing noise, interferes with the sense of hearing; in such cases the surgeon must trust to the senses of touch and sight. If the breathing become shallow or irregular, accompanied by gasping or sighing, then the towel must be at once removed. Stertorous breathing is not in itself an evidence of danger.

"The appearance of the patient's face is also to be watched. As long as the lips are red the blood is being properly aërated, the circulation and the heart's action are unaffected. If the patient become livid, or unnaturally pallid, then there is danger.

"Tell the patient that he is to take long breaths. Give the drug slowly at first, in order to prevent a choking sensation. Do not let the towel rest on the face, because it is apt to cause blistering. After a time the patient struggles involuntarily. Do not fight with him; guide his movements; and, as the drug takes effect, they will soon subside.

"How are you to know when the patient has had enough? There are three signs, all of which should be made use of:

"1. By touching the conjunctiva. If the patient do not contract his orbicularis palpebrarum, then he is generally sufficiently under the influence. Sometimes, however, this is not a certain sign. The action on the nervous centres is progressive; although sufficient for an operation in the region of the eye, the drug may not yet have affected the whole of the spinal cord, and reflex action in the limbs may not be abolished.

"2. Muscular relaxation, judged of by raising the arm and seeing if it fall heavily by the side.

"3. Local sensibility at the seat of the operation. This is to be estimated by the surgeon pinching the part to be operated on with a pair of artery-forceps.

"These three signs are all useful, and experience will enable the administrator to estimate their proper value in each case. Take away the towel the moment the patient is under the influence. A very common mistake is to suppose that, if the patient be breathing, then all is right. When the breathing stops, then the patient is on the point of death.

"No attention is to be paid to the pulse; it is the last thing that stops. When the stoppage of the heart's action is due to the drug, then the patient is dead. Fortunately, the poison is a volatile one; and if, from ignorance, too much has been given, interfering with the action of the heart, either directly by acting on the nervous centres which govern the heart's action, or indrectly by stoppage of the circulation, the heart may recover itself if the patient be kept alive by artificial respiration, until the poison, in consequence of its volatility, is dissipated.

"The administrator has to devote his attention to other things; and, if he attend to the pulse, he cannot pay sufficient attention to the more important signs—important because they occur earlier in the administration. Attention to the pulse by a second person is not necessary, because the signs which I have already given will be quite sufficient to prevent danger. There is a division of responsibility. Assistance is apt to make the administrator trust to his assistant, and not to be sufficiently watchful himself of the other signs which guide him in the administration. It is not necessary to use the stethoscope in order to test the propriety of giving chloroform. If there be heart-disease, or weak action of the organ, then these are the very cases in which chloroform is most useful, because they are most liable to the occurrence of shock, which the drug prevents by abrogating sensibility.

"c. *The Dangers which may accompany its Use, and their Treatment.*—We must always be prepared for these. They may occur in any case, because the drug acts with much greater rapidity in some cases than in others, and we can never in any case foretell how rapidly the drug may act. The frontier-line between the abolition of sensation, voluntary motion, and reflex action, and stoppage of the circulation and heart's action, is often very indistinctly marked. In old people this is the case; in them the drug must be administered with the greatest caution.

"I have occasionally seen troublesome symptoms in young children; and, while I say that in old people the drug must be given with the greatest caution, I do not wish it to be understood that children can take it without risk.

"We may reach the dangerous effects earlier in some than in others; hence the great care necessary in every case. The order in which the effects take place is the same in all. This must be distinctly understood.

"These dangers may be classed under four heads:

"1. *The tongue falling back* and closing the glottis, in consequence of paralysis of the muscles which hold the tongue forwards. The signs of this are lividity of the face and shallow breathing, as the air does not enter and leave the chest in sufficient quantity. The patient is in the same state as if a piece of meat had stuck in his pharynx, closing his glottis. The piece of meat is his tongue.

"2. *The glottis closing*, due to paralysis of the intrinsic muscles of the larynx. The signs of this are lividity and a crowing sound, as heard in a case of croup, acute laryngitis, or laryngismus stridulus.

"3. *Fainting.*—This is due to an imperfect supply of blood to the brain, the result of either the sitting posture during administration, as the dentist's chair, or to a naturally weak heart in the aged or prematurely aged person. The sign of this is unnatural pallor of the face, judged of more especially by the paleness of the lips. The faintness may be due also (at the commencement of the administration) to fear on the part of the patient. It may also be due to any cause which may give rise to faintness in general. In this case the chloroform has nothing whatever to do with the faintness; it may be associated with, but in no way due to, the chloroform. The faintness may also be due to want of confidence on the part of the administrator. He fears the drug, from ignorance of its physiological action. He commences the operation before the patient is then in a condition which renders him most liable to shock. He is unable to brace himself up to bear the pain; his nervous centres are in a semi-paralyzed condition. The unfortunate result may follow, namely, imperfection or stoppage of the heart's action, followed by syncope.

"4. *Vomiting.*—This is only dangerous if there be food on the stomach. The food passes into the pharynx, and may pass through the semi-paralyzed larynx, and cause suffocation by passing into the bronchi. If the stomach be empty this danger cannot occur.

"The treatment of these dangers is as follows:

"1. *The Tongue falling back.*—The head is to be turned on one side, in order that, by its weight, the tongue may pass to one side, and the opening of the glottis may be free for the entrance and exit of air. If this do not at once effect the object, then the tongue must be removed from its dangerous position, and for the same reason that, if a person be choking from a piece of meat lying on his glottis, the proper treatment is to remove the obstruction. The best way to do this is to seize the tongue with the catch-forceps and pull it forwards, so that the tip of the tongue appears between the teeth.

"2. *The Closure of the Glottis,* due to paralysis of the intrinsic muscles of the pharynx.—To remedy this danger, the tongue must be pulled forcibly out of the mouth. By so doing the epiglottis is pulled forwards by stretching the ligaments which unite it to the tongue; the epiglottis, passing forwards, stretches the arytæno-epiglottidean ligaments, and separation of the vocal cords follows. The action here is purely mechanical, and was first explained to me by Dr. John Wyllie, who first described this effect of forcible traction on the tongue.* This can be verified on the dead subject.

"From further experience I am inclined to lay greater stress now than I did in 1876 on the view of Lister, published in Holmes' *System of Surgery;* namely, that the forcible pulling forward of the tongue acts reflexly, stimulating the respiratory centres. I cannot, however, lay altogether aside the mechanical theory described in the text. Lister's theory has strong corroboration in what I have seen of Mr. Joseph Bell's practice in the Royal Infirmary here. In cases of shallow respiration with or without lividity, in which the forcible pulling forward of the tongue has no immediate effect, he at once pushes his finger into the glottis; here the action, undoubtedly most beneficial, is twofold, mechanical in opening the glottis, but mainly, as Mr. Bell holds, and I think truly, by irritating an excessively sensitive surface, and in this way reflexly stimulating the respiratory and cardiac centres.

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* For an account of the valvular action of the glottis, see paper by Dr. Wyllie, *Ed. Medical Journal*, September, 1866.

"If these two dangers, the tongue falling back and closure of the glottis, be not treated at once, the result is that respiration does not proceed, the blood is improperly aërated, the lungs become gorged, the heart becomes gorged, and the result is, stoppage of the heart's action. If a rabbit be killed with chloroform and the chest opened, the heart will be found to be gorged with blood, and the contractions of the heart will be in abeyance; prick the heart with a needle, allow some blood to escape, and the contractions of the heart are re-established. This experiment seems to show that if, by striking the chest and by artificial respiration, the action of the heart be not quickly re-established, then bleeding from the external jugular vein should at once be resorted to. I have never yet required to have recourse to this remedy, artificial respiration having been sufficient. It must be remembered that it should never occur unless by a fault on the part of the administrator in not using at once the proper remedies—either removal of the tongue if it be acting as a mechanical obstacle to the admission of air, or forcible traction of the organ if the obstruction be in the larynx itself, in consequence of paralysis of the intrinsic muscles of the organ.

"3. *Fainting.*—The treatment is preventive and curative.

"*a. Preventive.*—Never give chloroform in the sitting posture. Never commence any operation, however trivial, until the patient is fully under the influence of the drug; it is far better not to give chloroform at all, than to use it imperfectly.

"*b. Curative.*—If it occur as a result of a weak heart, or in consequence of an excessive loss of blood during the operation, or as a coincidence during the administiation of the drug, then the head must be at once placed at a lower level than the body, the arms and legs must be raised to the vertical, ar the patient may be held up by the heels, as recommended by M. Nélaton. The effect in all these ways is attained of restoring a sufficient supply of blood to the brain.

"The good effects of Nélaton's practice are, in my opinion, of a twofold nature; first, by restoring the proper supply of blood to the brain in the most efficient and quickest manner; second, in many of the cases the danger may have been at the opening of the glottis, due to obstruction by the tongue; inverting the patient will at once remedy this by causing the tongue to fall forwards. It will also be useful in cases in which blood, in operations about the mouth and nasal cavities, has passed into the bronchi, or in cases in which vomited matter has passed into the larynx, the foreign body being removed by inversion, as Brunel removed the half-sovereign from his bronchial tubes. The frequency with which Nélaton's practice has been attended by good results in cases of apparent death from chloroform, seems to show that inversion may act in this twofold manner, because obstruction of the glottis is a much more frequent danger in the administration of chloroform than faintness, which, as far as my experience shows, is comparatively rare.

"4. *Vomiting.*—Do noi give any solid food for four hours before the operation. Ih railway accidents and other sudden injuries in which it is necessary to give chloroform, the greatest care must be taken; if vomiting occur during the administration, turn the patient on his side, in order to allow the vomited matter to escape from the mouth, and prevent any regurgitation into the bronchial tubes. In such cases the administration of the chloroform should be abstained from until the stomach is empty.

"When the act of vomiting takes place, the stomach being empty, then the administration of more chloroform is required, in order to stop the abnormal contractions of the muscular walls of the stomach. There is in such a case no danger from vomited matter passing into the larynx.

"D. *The Dangers which accompany its Abuse, and their Treatment.*—If an overdose of chloroform be administered—and it must be remembered that some patients are very susceptible to the action of the drug—the nervous centres which rule the muscles of respiration are poisoned; then the treatment required is to pull the tongue forwards, in order to allow air to enter or leave the chest by artificial respiration. It is a volatile poison, and perseverance in artificial respiration must be continued until the volatile poison passes away. A case recorded by Dr. J. J. Brown in the *Edinburgh Medical Journal* (Nov. 1874) well illustrates this important fact. By artificial respiration, kept up continuously for two hours and three-quarters, he saved a patient in whom complete paralysis of the respiratory ganglia had occurred, but the cardiac ganglia were unaffected. The case also shows that the respiratory ganglia are poisoned before the cardiac ganglia. When the overdose is excessive, then the heart's action is interfered with; by artificial respiration, striking the chest-wall with a wet towel, and the use of the galvanic battery, it must, if possible, be restored."

# SAMPSON COUNTY BOARD OF HEALTH—REPORT OF THE MEETING OF CRGANIZATION.

Pursuant to notice given in "*The Caucasian*," the Board of Health of Sampson County met in the Court House in Clinton at 12 o'clock M. on the 8th day of May, 1885, and was called to order by Col. John Ashford, Chairman of the Board of County Commissioners, and J. H. Benton requested to act as temporary Secretary.

It was moved and carried that a committee be appointed by the Chairman to report to this body the names of the physicians who are eligible to sit as members of the Board of Health of Sampson County. Drs. A. Holmes, A. M. Lee and Henry Sloan were appointed, who, after a short absence, made the following report, which was adopted:

"Your committee beg leave to submit the following names as entitled to membership:

"Dr. J. R. Marable, graduate of Hampden Sidney Medical College; Drs. J. H. Faison, J. H. Darden, Isaac M. Hobbs, J. H. Benton, A. Holmes, G. W. Moseley, graduates Medical Department University of Pennsylvania; Drs. Henry Sloan, W. J. Thompson, Charleston Medical College; Drs. A M. Lee, C. S. Kerr, Medical College of Virginia; Drs. Jesse Lucas, A. T. Cooper, F. Cooper, College Physicians and Surgeons, Baltimore; Dr. John A. Stevens, Jefferson Medical College; Dr. W. L. Hudson, Kentucky School of Medicine; Dr. Wright Hall, Edinborough Medical College of North Carolina,

"The *Edinborough Medical College of North Carolina is not recognized by the State Medical Society, having in the opinion of said Society failed to comply with its charter. We therefore leave this case open for your consideration. All the others, so far as we are informed, are eligible to membership. This one (technically) may be.

"Respectfully submitted,
(Signed) "A. Holmes,
"A. M. Lee,
"Henry Sloan."

The temporary organization was, on motion of Dr. A. M. Lee, made permanent.

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*The Edinborough Medical College will not be recognized by the North Carolina Board of Health. The license of the Board of Medical Examiners would be required

Members of the Board present: Col. John Ashford, Chairman Board County Commissioners; Arthur Lee, County Surveyor; Howard Hubbard, Mayor of the county town; Drs. A Holmes, A. M. Lee, I. W. Hobbs, A. T. Cooper, J. R. Marable, J. A. Stevens, W. L. Hudson, Henry Sloan, J. H. Benton, Wright Hall.

The thanks of the Board were, by unanimous vote, tendered Dr. Holmes for his very able and appropriate remarks upon sanitary and preventive medicine.

The following preamble and resolutions, offered by Dr. Holmes, were adopted:

"WHEREAS, The Legislature, during the last session, seeing the necessity for hygienic laws for the protection of the health and lives of the citizens of the State, and yielding to physicians as a class in matters purely sanitary, have enacted laws for the organization of Boards of Health for each county in the State, defining clearly who shall compose said boards and their duties, therefore we present for consideration and adoption the following:

"*Resolved*, That, in obedience to said law, we proceed to organize a Board of Health for the county of Sampson of those persons eligible to membership.

"*Resolved*, That there is a necessity and room for reform, and this being the most important of any of our relations to the State, with united front we will, by searching investigation, do all in our power for the health of our people, as required by duty and law, by an effort to stay or mitigate preventable diseases, proving that a health board is not only beneficial, but a necessity.

"*Resolved*, That the thanks of the medical profession as a body are due, and are hereby tendered, to the members of the Legislature for the appreciation oi the efforts of the North Carolina Medical Society in behalf of sanitary and preventive medicine by the passage of this wise and humane law,

"*Resolved*, That in the election of officers a majority of those entitled to vote shall secure an election, and that we proceed *at once* to elect a Superintendent of the County Board of Health for the unexpired term, as provided by recent act."

Dr. John A. Stevens was elected Superintendent of Health.

The Board then adjourned *sine die*.

J. H. BENTON, Secretary.

◆

WE regret to record the death of Dr. F. D. Cunningham, of Richmond. He was a man of excellent ability, and leaves the substantial reputation of a versatile physician. He was only 49 years old when he died.

WILMINGTON, N. C., October 6, 1885.

Dr. THOS. F. WOOD, *Editor North Carolina Medical Journal:*

Please mention in the NORTH CAROLINA MEDICAL JOURNAL that the name of Dr. Hannibal McD. Little, of Taylorsville, Alexander county, North Carolina, should be included in the list of those who were granted permanent license to practice medicine by the Board of Medical Examiners, at their meeting in Asheville August the 29th, 1885.

Very truly, W. J. H. BELLAMY, M.D., Secretary.

# READING NOTICES.

Mellier's Standard Saddle-Bags and Buggy-Cases received the highest award (the Gold Medal) at the World's Exposition, New Orleans.

——(o)——

I have prescribed Aletris Cordial in cases of painful and irregular menstruation, and find it the best remedy I have ever tried for the above named troubles. I would earnestly recommend a trial of it to my professional brothers, being assured that they, like myself, would not be without it. F. E. THOROLD, M.D.

Jamestown, D. Ter.

——(o)——

Mr. Chamberlain :—Dear Sir :—I have received by express your patent Seat, invented for Hemorrhoids, etc. I have used it but a short time, but with decided advantage. It has my hearty approval, and hope it may be received with popular favor, and that you may be amply compensated for the service rendered to the afflicted and sufferixg. I have to thank you for the invention, as must many others who may use it.

Yours respectfully,

W. N. H. SMITH,

Chief-Justice of North Carolina.

Raleigh, N. C.

# NORTH CAROLINA MEDICAL JOURNAL.

**THOMAS F. WOOD, M. D., Editor.**

**Number 5. Wilmington, November, 1885. Vol. 16.**

## ORIGINAL COMMUNICATIONS.

### DE LUNATICO INQUIRENDO.

Reported by W. C. McDuffie, M.D., of Fayetteville.

Sometime in October, 1884, a very insignificant specimen of the *genus homo*, called Joseph Howard, in a drunken brawl killed another white man in Cumberland county, a few miles east of Fayetteville. He was at once arrested, tried and convicted of murder. At the same term of the court a negro man was also convicted of murder. An appeal to the Supreme Court was taken in both cases. Before the decision of said court was heard from another Superior Court was held in this county, and still another negro was tried and convicted of murder, and an appeal in his case was also taken.

The Supreme Court affirmed the judgments of the courts below in all three of the cases, and at the June term of our Superior Court the three men were resentenced, and July the 25th the day fixed for the triple execution. It appearing, however, to the satisfaction of Howard's counsel, that the said Howard had become insane at, or soon after his resentence, two affidavits were sent to the Governor—one from the county physician attending at the jail (Dr. W. C. McDuffie), the other from the counsel himself (H. McD. Robinson).

Upon these affidavits the Governor respited Howard for thirteen days, or until the 7th day of August, in order that the usual inquisition might be held, as provided by law, to determine the true mental condition of the prisoner. The regular term of the Superior Court came on the ensuing week, and the prisoner was ordered to be brought before the court, a regular jury empannelled and the case stood for trial. By this time, however, the community was wrought up to a high pitch of excitement by a portion of the citizens becoming alarmed, as they alleged, lest a mob would be raised and that violence and lawlessness and "old Harry" generally would take place. They called a town meeting and passed resolutions, denounced Howard as a "premeditated murderer," boldly denied his insanity, and called upon the Governor to respite the two negroes until the 7th of August also. These *indignants* were white men and good citizens, but unnecessarily alarmed. This feeling spread, and by the time the trial came on there was a perfect clamor for vengeance on Howard, and a demand for his blood as a peace-offering. It was simply incredible how this prejudice diffused itself into the minds of so many and swelled the cry for the triple hanging. As evidence of this, I have in my possession now letters and pictures most revolting, regular "raw-head and bloody-bones"; the letters couched in the most threatening language, warning the counsel of his certain doom if he persisted another day in defence of Howard. These were sent through the mail to the counsel (of course from some miscreant) and no notice paid to them.

At the first trial it was the "State vs. Joseph Howard;" now it was "the world, the flesh and the devil vs. Joe Howard," as well as the State. Insanity, instead of a disease, was a worse crime than murder in the first degree, and all this "tempest in a teapot" was inexplicable upon any other hypothesis than that Howard should have had better sense than to go crazy at such a critical time, or that it would be so lonesome for the two negroes to shuffle off the coil by themselves.

With this flood of opposition Howard came before a jury of twelve men, good men, and as fair men as you could get in any county, yet men unacquainted with the subtleties of insanity, and therefore incompetent, as I contend, to try such an issue, and it is with a hope of being instrumental in preventing in the future such another farce that I lay this case before the profession, to show the folly of the present system of holding an inquest on the mind with a jury of laymen, and therefore the necessity of a change in the law regulating such trials.

I cannot give, neither is it necessary to give, all the details of this grand burlesque. I will give enough to enable any reasonable and educated medical expert to come to the same conclusion that I have in regard to the defect in the law, whether they agree with my diagnosis or not.

I copy *verbatim* from Judge MacRae's notes, kindly furnished me after the trial :

"The issue to be tried

"Is the prisoner, Joseph Howard, at the present time insane? 1st witness examined—

"Doct. W. C. McDuffie, being sworn, says : 'I have made nervous diseases somewhat a specialty in my practice of thirty years ; have known the prisoner twenty years ; only knew him as physician and patient ; have treated him as a charity patient, and prescribed for him when he was not ; I have treated him for disease of the heart chiefly, also for intermittent fever and fistula in Ano ; he has hypertrophy of heart now ; since October, 1884, he has been in jail, and from close observation by regular visits I saw a manifest change in his mental condition on the 5th of June—the day of his resentence—and from that time to this his condition has varied ; his conduct at that time and for some ten days after was maniacal ; I attributed this to the great mental shock produced by sentence of death ; sometimes since that time he has been nearly as coherent as he formerly was, but never entirely so, never perfectly lucid ; answered questions, sometimes correctly, but unable to hold or carry on any lengthened conversation ; marked physical debility, without taking food for several days at a time, without sleep, when mania was visibly marked at his first attack, in which condition he remained for some eight or ten days, and paid no attention to what was said to him, or to personal cleanliness or personal comfort, tore up his blankets and buckets, and befouled himself ; there was not complete dementia after this, only partial—if complete had existed, there would have been total oblivion to surrounding circumstances. Difference between mania and dementia—his violent actions were maniacal, his indifference was dementia; sometimes mania subsides, and there are lucid intervals; sometimes dementia follows mania, as in his case. There is generally more uniformity of conduct in dementia, and it is more regularly continuous; he is perhaps to-day, and for the past week, in a better condition than the week before, but even to-day, as you see him there before you, he does not comprehend the momentous events which are here transpiring, events, too, of such tremendous consequence to him; his refusal to take food was only a symptom of insanity, when taken in connection with his other actions; the expression of his eyes from that day (June 5th) has been unnatural, an expression that is not deceptive, and a very good test to an experienced observer; many peculiarities indicate the unsettled state of his intellect; he has delusions sometimes—imagines snakes are after him, puts up his blankets in his cell in various silly ways to keep them off, a continual disposition to crawl behind his imaginary screen to hide from observation; sometimes an oblivious indifference to everything around him; the weather being extremely hot, he complained of being cold, wrapping himself up in his blankets, yet when I would examine him I would find him hot and the action of his heart greatly disturbed; complained of roaring in his ears, pain in his head and left side; when he would complain or talk at all, and when his voice failed him, he would make signs to his head and side and put his fingers to his ears. I believe much of this suffering arises from hypertrophy of the heart; silence not so much a symptom of mania as it is of dementia; his refusal to talk was from inability; aphasia caused by shock; alcohol in such cases might have temporary effect in restoring voice. There is such a variety in healthy mental conditions, as well as in insanity, that each individual case should be considered by itself; mania and dementia can alternate and sometimes do, as in this case; mania very often occurs gradually, and may be for a long time undetected; when it occurs suddenly, from shock, fright, or sudden disappointment, it is classed by some authorities as acute primary dementia; attempts at suicide a symptom of mania; lucid intervals more common in mania than in dementia; there are no really lucid intervals in chronic dementia; there have been no perfectly lucid intervals in the prisoner's case;

only relatively more sane manifestations one time than at another, but never clear rationality; have seen him so frequently for the past eight weeks, that I can say positively he is now insane.'"

"Cross-examined: 'Feeble condition of mind and body not positive evidence of insanity; weak physical condition consistent with mental health; A. H. Stephens an illustration; all these symptoms could not be feigned in his case, because he did not possess the mental capacity or knowledge of feigning, nor could he have held out undetected for so long a time; I did my utmost to arrive at his true mental condition, and am satisfied he was not 'playing a part'; there is a great deal of feigned insanity, especially after the commission of crime; not prepared to say that De Jarnette was a case of feigned insanity, I incline to the belief that he was insane when committed to the asylum, and that he was there cured; I believe there is impulsive mania—emotional insanity; did not say the prisoner was alarmed at the sight of strangers, but said he showed a dread, and would crawl behind his blankets; sudden and real alarm would excite palpitation; I detected no differences; his was an exalted circulation nearly all the time; heart throbbing loudly almost continually; if he was in a natural state sudden alarm would excite the pulse; I discovered no difference when he complained of snakes or showed a dread of strangers; the change in pulse would depend on the degree of excitement; if a crowd came into the jail, his wife among the rest, he apparently knew none of them—others went out and he then recognized his wife—not strong evidence of feigning by itself; mental shock was the cause; he became absolutely deranged immediately after his resentence; not able to say why these symptoms did not appear immediately after his first trial; not able to say *when* a man should go crazy; saw him frequently prior to his last sentence, and observed nothing more than his ordinary manner, or sort of *non-compos mentis* look, which he always had; was not called upon at his trial to testify as to his mental condition, but simply in regard to fistula in connection with blood on his pocket; the first time I was asked by his counsel concerning his insanity was about ten days ago; dictating a connected narrative would be evidence of sanity or lucid interval. [Here a writing was shown witness, said to be a confession of Howard, dictated by him and written by the jailor.] 'I find this disconnected, incoherent, irregular and puerile; don't know who is to blame for it, the one who wrote or the one who dictated ; it is not evidence within itself of sanity ; an act of memory not evidence particularly of sanity ; most insane persons have good memories ; as to recent events memory may be bad ; the act itself might be the chief thing on his mind ; don't generally lose memory of exciting cause ; if a man charged with murder give an account of facts coinciding with the proof, but leaves out the main fact, that might be evidence of feigning, or if a person would do an act which was clearly intended to excite the notice of visitors to make them think him insane, of course that would be feigning ; I have never seen any such actions by the prisoner during the long attendance upon him in jail for the past ten weeks ; don't think the opinions of non-experts are worth much ; they can testify to the actions of the person, and their statements of those actions are worth just so much as facts, but their *opinions* of those acts are worth nothing ; the science is too intricate ; a man cannot ordinarily control his pulse, or the action of his heart, or the expression of the eye ; it is possible for a man to become insane from violent mental shock and afterwards remember that incident ; insane persons frequently have more confidence in their keepers than they have in others ; it is difficult sometimes for an expert to make up his mind as to the sanity or insanity of a given case.' "

"The prisoner's counsel rested here."

Then came a cloud of witnesses for the State—non-experts—but from the ease and self-confidence with which most of them handled the subject, you would have supposed they were experienced alienists—some thirty or more. I must be excused from detailing their very valuable testimony, it is unnecessary, as they all agreed in *opinion*, and pronounced him sane.

Only two of the medical witnesses for the State examined the prisoner, and, as they agreed, in the main, in their testimony, it will be sufficient for the purpose of this report to give the testimony of one, which I again take *verbatim* from the Judge's notes :

"Doct. J. W. McNeill, being sworn, says : 'I am a graduate of Bellevue College, New York ; practiced ten years ; have had occasion to treat persons suffering with disease of the mind ; have not made it a specialty ; disease of the mind a branch of the science ; a person in robust health, under sudden alarm, there would be a change in the pulse ; one in feeble health, excited, would be fully as much, if not more; have seen the prisoner five times in jail, observed his actions, paid special attention to it; have heard all the witnesses testify; assuming that it be true and the jury believe it, I would say he is sane; this is leaving out the expert testimony; I saw and noticed his actions and manner in jail every time I was there; I could not get much out of him; he would answer me in a foolish way; I tried him in a great many ways; I examined him physically, to see if he showed the marks of an insane man, and tried to catch him in different ways; he would be talking in a foolish way—suddenly asked him about his children; said he had no children, but the tears came in his eyes; while talking to him asked if he knew Cullen Blackman; he turned red in the face—denied knowing him; when he would appear frightened and go and wrap himself in his blanket, I would follow him and find his pulse as before; first time I visited his cell, two or three of us, we went to the door, the jailor made a noise, he dashed back to his blankets, and I went back and peeped over and he was wrapping himself in his blanket; this was repeated the second day, and I thought it indicated insanity, but the third time when I peeped over he was peeping over at us; I did not think his eyes indicated insanity; I asked him about hanging; he said what is that; I explained about rope around his neck and dropping him off and killing him; he made a tremendous to do, and said they wouldn't do that, would they? Found once that he had deposited fæces directly in the path where we would have to come to his pallet, some three or four feet from him—indicated method; if excitement was real pulse would be excited; my opinion is he is playing a part, though I will not swear positively; it is a hard, a very difficult matter to say whether he is insane or not; he acts mostly as if playing a part; there are some other things which I have not been able to see through and explain, but some things being feigned make me believe others are; some of those I can't see through indicate mental disease; his weakness physically, without apparent cause, would indicate mental disease; Sheriff McQueen has testified to acts indicating insanity, but all of which might have been feigned; judge of insanity by series of acts—very hard to simulate it—some forms can't be kept up long; cunning not inconsistent with insanity; insane often suspicious; have not observed insane persons refuse to talk except upon subjects on which they were insane; one time I went in, found him lying then ; would not answer me ; asked him several questions ; finally took out a vial of whiskey, asked him if he would have a drink ; he said he would ; and if he wanted water ; he said no ; never tried whiskey on insane man but in this case ; a man might assume an idiotic expression to an inexperienced man ; the fact of tearing up blankets, buckets, etc., indicates mania ; don't know that there is such a case on record as a man who takes his meals regularly and never talks to his keeper, or to his wife or friends for two or three weeks at a time ; to lie there and to befoul himself, not to speak to anyone, would require considerable effort, but it would require more effort to keep up mania as he commenced ; delusions about snake-bites consistent with insanity ; I went there and tried to look at him as insane ; had heard he was shamming ; tried to unprejudice my mind ; went there to test him ; irregularities of pupil of eye, tremor about the tongue physical indications of insanity ; not satisfied about the eyelids, think they are steady in most forms of insanity, pains in side and breast not necessary indications, pain in head one of the best tests of insanity ; insane expression of eye cannot be assumed ; insanity often results from moral shock, great fear ; the insane sometimes engage in perfectly rational conversation ; hard to tell from a few visits what the mental condition is ; physician who knew him all his life and treated him more competent to judge of his condition than others ; dementia sometimes or generally preceded by mania ; one case of insanity cannot be compared with any one single case, but can with insanity generally ; it is possible that he is insane ; don't think I expressed considerable doubt as to his sanity ; I said he was a puzzle ; there are several symptoms of insanity ; I think I satisfied myself they were feigned, most of them ; I never examined the pulse of an insane man when he was frightened ; you can't tell by the pulse whether a man is insane or not ; I examined his pulse ten minutes before he appeared to be frightened, and again when he appeared so, and found no change ; if it was only a suspicion it would not affect the pulse, but a sudden shock would ; I noticed when you spoke to him privately or in a whisper, he would speak more freely than when you spoke out to him ; this indicates either cunning or insanity ; a man would have to be pretty intelligent to do it well ; I suppose people generally think of a crazy man as a raving maniac ; I could not swear positively whether he is insane or not, but my opinion is that he is feigning; he is very pale and haggard; they are so generally in dementia—broken down, weak; a man in feeble health, confined a long time in jail, would be apt to decline in health; did not discover those symptoms in him which could not be feigned.'"

The only other medical witness for the State who examined the prisoner, was Dr. Ivy, and his testimony was the same, in substance, as Dr. McNeill's, they having seen him together, and only some five times.

The testimony of the non-experts, as before stated, is not necessary for the enlightenment of the medical jurists who are to read this recital of a very humiliating spectacle; yet I think it but just to all concerned that the *facts* testified to by the only persons who had the *opportunity* to know, should be given—that of the sheriff and jailor, who were in daily contact with the prisoner during the whole time of his imprisonment—not for the purpose of benefitting the prisoner (it is too late for that), but to show that juries will regard the *opinion* of a witness as well as a statement of *facts*.

Again from the record:

"Sheriff McQueen, being sworn, says: 'W. R. Clark is my jailor; I have known the prisoner since January, when I took charge as sheriff; have seen him very frequently since his last sentence; first time I saw him after his resentence he did not care to talk, and his condition was such that I thought he needed pretty close attention; he refused to talk to me, or to the doctor, or the preacher, or his wife; I told the jailor once that I thought he ought to have stimulants; I asked him if he would like to have a drink, he said yes; I got Mr. Myrover to go with me and carry a vial of whiskey; he would not talk at first, but I gave him a drink, and told him he ought to make a clean breast of his case, that Mr. Myrover was a reporter and would take it down; I went outside, and heard him tell Mr. Myrover about it; afterwards I went in and told him to clean up his room, that the preacher wanted to visit him, etc; up to the interview with Myrover, I thought him insane, but since that I think he is sane; he refused to speak to anyone for about two weeks, tore up his buckets and his clothes, befouled himself, had very little expression, kept his eyes shut a great deal of the time; saw how his blankets were fixed up in his cell; about two weeks ago, one Sunday evening, I went in, spoke kindly to him, he spoke to me, shook hands and kissed the back of my hand.'"

"W. R. Clark, jailor, being sworn, says: 'I have seen the prisoner two or three times a day since December the tenth, oftener lately, as visitors were going in and out; have noticed his manners and actions from December 10th to his resentence, June 5th; saw nothing unusual; after his resentence I noticed something wrong; he broke up buckets, tore up clothes, would not speak, would not eat, except now and then he would eat part of his meals; after his resentence he got so he would not speak to anybody, or notice anybody or anything, not even his wife or anybody else, for some ten days; after that he would talk to her; his manner was different when alone with me from what it was when a crowd was there, except the ten days; he would look around, and one morning he told me snakes bit him, showed me a little blood on his toe; I told him I reckoned it was a rat; he told me about pretty snakes afterwards; he complained of severe pain in left side and roaring in his head, and his mind appeared to be wandering: when he would get some better of that his mind appeared better; I think he is sane; I said I had doubts during those ten days when he would not speak; when he was resentenced I noticed him looking about; complained of flies; kicked the banister; I told him to stop, and he did stop; I told him not to tear up his blanket—to make fish nets; he said it was an old one; sometimes don't complain of his side and head for a week, then complains of roaring in his head.'"

After able arguments on both sides, and the law, as it is laid down, explained by an impartial judge, the jury took the case and deliberated several hours, but finally brought in a verdict of sanity. Thus ended a matter really of no great consequence to the community; for death was the same as confinement in an asylum, and, as it turned out on the gallows, not much interest to Howard. But it was a matter, I think, of vital importance to science and of intense interest to that portion of our profession which takes a hopeful view of the advanced step we have made towards a higher standard of medical jurisprudence in North Carolina:

The subsequent history of the prisoner's life, though short (only a few days), was full of interest to one who, against a sea of opposition, had stood the denunciations of ignorance and prejudice, and declared what he believed to be the true condition of the unfortunate man, regardless of public opinion or private remonstrance. The some manifestations of mental disorder followed him to the gallows, and there, before three thousand gaping spectators, he showed the silly face and childish actions of the poor demented creature that he was, and behaved to the very last—on the very threshold of eternity—in such a manner as no sane man could have done. It would even be impossible to imagine a hardened devil incarnate meeting death with such perfect indifference. From the second day after the farce at the court house he continued to tear off his clothes. The fatal morning he was visited by the preacher and the doctor. He was rather calmer than common, but not intelligent. He told the minister who had been so constant a visitor to him that he did not remember to have ever seen him before. He did not realize the purport of questions or answers, as everyone could see; asked if he knew he was to die to-day. "Oh yes." When the fatal spot was reached his idiotic delight at the grand pageant did not abate. He mounted the gallows with a *sang froid* that was worthy of Guiteau, and satisfied every unprejudiced man that saw him that his actions throughout surpassed anything, for a gallows scene, ever witnessed by anybody in that assemblage. It did not require an expert to pronounce his actions those of an irrational being. He plainly showed that he did not comprehend or realize the absolute certainty of death. How could he? He was silly, childish, frivolous, demented, deranged, and vacantly gazed upon the whole paraphernalia as an entertainment. The trap fell, and thus, through the law's own defect, was executed a crazy man, as the law does not direct. Before suggesting a *remedy*, let us turn for a few moments to some authorities on the *diagnosis* of insanity, and see how the symptoms described in Howard's case coincide with the books. "Simple dementia is generally consecutive to mania, and sometimes produced by accident and mental shock. It is a condition of which *weakness of the intellect* is the most prominent feature. The mind is altogether feeble, the ideas confused, vague and wandering, and the *memory is impaired;* there are paroxysms of *restlessness* and *excitement;* the patient's are ignorant of time, place and quantity; their manners are *undecided, childish and silly;* their *conversation is incoherent,* and they repeat sentences without attaching any precise meaning to them. *They see their best friends without pleasure and they leave them without regret.* Cerebral atrophy is a constant concomitant of dementia, its extent varying with the loss of mental power."—*Woodman and Tidy.* Again: "Dementia, imbecility, fatuity, and the like, those terminal forms of mingled mental and bodily weakness into which all the others, if not cured, lapse in the course of time." "Dementia may follow diseases of the *circulatory*, respiratory and secreting organs, degeneration of tissues, and other diseases of the brain. The vast majority of our asylum patients belong to this class of dementia consecutive on other forms of mental disease; *there is a charcter of feebleness in all they say, do or think, resembling idiocy or childishness*, or the apathetic state induced by brain disease. Reason, judgment, imagination, perception, and all the rest of the intellectual powers are also feeble. Their mental horizon is a very small one."—*Ibid.* Dr. Guy says: "The acute form of dementia is known to arise from mental shock, fright, etc., and thus acute dementia uncured becomes chronic, and it is also frequently consecutive to other forms of insanity, and thus the maniac, monomaniac, melancholic, or the epileptic patient becomes demented, second childishness, and finally oblivion overwhelm him." The world-wide famed Carlotta illustrates this form of insanity; so also Reil's wife, in Canada, who has recently become deranged from the shock at her husband's conviction. Examples might be multipled. Dr. Taylor says of lucid intervals: "At those periods in which an insane person is free from his insanity or delusions, *a remission is a mere abatement of symptoms*," and further, that "these intervals may be of longer or shorter duration, varying from a few hours to weeks, or months, but *distinct lucid intervals are more likely to be exhibited in mania than in dementia.*" Drs. Bucknill and Tuke say "they are less likely to occur in dementia," and that "delusions occasioned by cerebro-mental disease take their place, *where the bodily health is impaired*, as Howard's was, all through the long weeks of his confinement.

Woodman and Tidy, in their "Forensic Medicine and Toxicology," lay down valuable rules and directions for examining suspected lunatics. They say that "the best methods of scientific diagnosis now used by skilled psychologists includes a thorough physical investigation. Ascertain if there has been any change of habits, that is, in mode of living, or the existence of renal, pulmonary or *cardiac* disease; valvular or other diseases of the heart, as dilatation. *Hypertrophy* and degeneration are common in the insane." Howard had hypertrophy. Again: "Painful affections of the lower bowels and arms have a depressing influence on the mind; we have known a man's character completely altered by the cure of a fistula in

Ano." Howard had fistula. Dr. Bucknill, on the same subject, of detecting insanity, says: "Notice any peculiarities of bodily condition and the *expression of the countenance.*" Dr. Bushman, in his "Hints for Certifying in Cases of Insanity," says: "Observe the physiognomy, attitude, gestures, words and manner of speaking, muscular power and organic functions," and very cleverly says: "Do not be too hasty in assuming that all the information derived from others is correct; found your opinion on matters observed by yourself." And Woodman, again, in speaking of feigned insanity, says: "It is difficult frequently to detect feigned insanity, except by *continued* observation and a *knowledge of the patient's previous history,* and rather than condemn the innocent, or allow the guilty to go unpunished, you should ask for extension of time, when your opinion is asked; far better that a trial should be postponed for a few weeks or months, than that you should commit an injustice or give a hasty opinion, which you may afterwards bitterly regret."

Bucknill closes his directions with this wholesome admonition: "In medico-legal cases let the physician avoid becoming a partisan on either side."

Compare the descriptions of the prisoner's condition and actions, as given by the sheriff and jailor, as well the statements of Dr. McNeill and my own testimony, including his previous history, as well as his subsequent history, and see if they do not agree with the books upon this form of mental disease, no matter what our opinions may be. I might go on, from one authority to another, touching insanity, real and feigned; but this article has reached a sufficient length to enable the profession to grasp its most important relations; and I must come to the suggestion of a remedy which, if applied, will forever prevent the evil of trying the issue of insanity by a jury of laymen.

It is well known that the present jury system, while it is the only, and perhaps the best, means by which justice can be obtained in litigation, both civil and criminal, and that its development is generally regarded as one of the greatest achievements of English jurisprudence; yet it is deficient in some particulars, one of which is its misapplication in the trial of insanity. It never was designed for such an enquiry; I mean the common jury of twelve freeholders, as is invariably employed in the superior courts. The intention of the writ "*De Lunatico Inquirendo*" was nothing else than that it should be *a jury of inquest on the mind*, and that such jury should be special, and composed of men who were indeed, as well as in theory, masters of the facts that came before them ; upon the same principle that the writ "*De Ventre Inspiciendo*" was intended for the examination of a female prisoner condemned to death, and pleads pregnancy in stay of execution, a jury of matrons was resorted to. The law as it now stands in the Code of North Carolina, reads as follows :

"The judges of the Superior Court in their respective districts shall commit to the proper asylum as a patient any person who may be confined in jail on a criminal charge of any kind or degree, whenever the judge shall be satisfied by the verdict of a jury of inquisition that the alleged criminal act was committed while such person was insane, and that such insanity continues ; and also, any person acquitted upon a criminal charge, when on the trial of such person insanity was relied upon as defence ; *Provided*, the fact of insanity was found as a distinct issue to exist at the time of such trial, *or is so found by a jury of inquisition, as such judge may direct.*" (Sec. 2225, Chap. 2, Code of North Carolina, 1883.)

Now, it is clear from this section that the judge has the discretion to form such a jury of inquisition of such material as he may select, the law *neglecting* to define the qualifications that such *special* jurors should possess, only authorizing the judge to commit, upon the finding of a jury of inquisition, "such as he may direct." To effect the desired change requires but a slight amendment to this section. Let the words "three medical experts" be substituted for the word "inquisition," where it occurs in the section, or let it read, "by a jury of inquisition composed of three medical experts as such judge may direct." This merely defines the qualification of a special juror, and does not in the least infringe upon the judge's prerogative. The law defines the qualifications of jurors in general, why not in the special case? Where is the objection to this change? Not with the counsel for the prisoner, for here in this quiet shade of deliberate and impartial investigation, with the light of science to guide, and where no crude doubts could affect the judgment, the prisoner, be he high or low, would get exactly what he deserved ; and the State surely wants no crazy man's blood, even in expiation for crime or for the purpose of suppressing crime. She has too well provided for the care of her unfortunate insane to be charged with such inhumanity. Then why not ask the Legislature at its next session to amend the above section. If it be objected to because the Bill of Rights guarantees to every man a trial by his peers, I answer this does not apply where the issue is insanity, and if it did, who is the peer of the insane man? Not another insane man. Then who is, if it be not the experienced alienist, the thoroughly educated medical expert, he who can go down into the gloomiest abodes of melancholy with the lost intellect, or soar with the wildest fancy of the maniac into the remote regions of diseased imagination? Selah.

# CASE OF CÆSAREAN SECTION AFTER DEATH OF MOTHER—LIVING CHILD REMOVED.

By J. Mack Hays, M.D., Oxford, N. C.

A short while after 8 o'clock on the evening of the 3d instant (October) I was hastily summoned to the wife of Mr. C., living seven miles distant. On reaching the house I was informed that the patient was too far gone for me to do her any good. The following history was briefly given me: About four hours previously Mrs. C. was in the yard looking after her domestic affairs and enjoying, apparently, her ordinary good health, when she was suddenly attacked with a violent headache and sent in haste for her husband at the mill, a hundred yards distant. When he reached the house she told him to send at once for the doctor, as she felt very sick and her head hurt her terribly; then, throwing her hand to the back of her head, fell on the bed with the exclamation, "I can't stand it!" She was speechless from that moment, vomited frequently for some little time, several times threw her left hand to her head, and sank rapidly into the condition in which I found her. She was evidently suffering from an extensive cerebral apoplexy, presenting the following symptoms: complete motor and sensory paralysis of left side of face and right side of body, both pupils widely dilated and totally insensible to a bright light; very slow, stertorous breathing and "drawing in of the paralyzed cheek with inspiration and its puffing out with a sort of explosion in expiration"; pulse rapid and barely perceptible; face pallid. A sharp pinch on the non-paralyzed arm produced no evidence of sensation, nor did the hypodermics of whiskey which I administered as a forlorn hope. The patient was rapidly approaching her end, and was eight and one-half months advanced in pregnancy. I satisfied myself from the husband that the child was probably alive, as he had heard his wife speak of having felt motion the same day. I then laid the case clearly before the husband, telling him that while one life was fast passing away, another was at stake which might be saved even after the mother had breathed her last. He told me to do as I thought best. Accordingly I made the necessary preparations, and, after all evidences of life had disappeared in the mother, and the bystanders sent out of the room, I proceeded without delay with the operation. With one stroke of my scalpel I incised the skin and subcutaneous tissues from the umbilicus nearly to the symphysis pubis; two incisions more, through the linea alba and peritoneum, exposed the uterus to full view; through it I next made an opening as low down as possible and of sufficient size to admit my two fingers, at the same time liberating the liquor amnii. Using my fingers as a director I slit up the uterus to the placenta, which I easily detached. The body of the child was now fully exposed lying in the second cranial position. I lifted it from the uterus, and by exerting some little force to overcome the suction brought to bear upon the head, removed a living male child from its dead mother. The cord was tied and cut as usual. The operation was attended with a very slight loss of blood, and that of a dark venous character.

The unusual shape of the child's head, born without any pressure having been exerted upon it was quite noticeable.

The child is being fed on fresh cows milk, diluted and sweetened, and at the present writing, October 15th, stands a fair chance of being raised. It makes the fourteenth child born of Mrs. C., all of whom are living.

I will not inflict upon the reader any remarks upon the foregoing case, nor will I undertake at this time to give a resumé of previous operations of a similar nature, but would refer all who may be interested in the literature of the subject to the following: *American Journal of Medical Sciences*, October, 1879; *American Journal of*

*Obstetrics*, January, 1879; *Wiener Medical Wochenschrift*, November 22, 1879; *British Medical Journal*, June 14th, 1879.

My thanks are due Dr. R. P. Harris, of Philadelphia, for kindly directing me in my search after statistics, etc., bearing upon my case.

# SELECTED PAPERS.

## CHLORATE OF POTASSIUM AS A POISON AND AS A GARGLE.

As the season of sore-throat is drawing near, it is not out of place to call the attention of our readers to a case reported by Dr. Wilkie, of Halle, of alleged poisoning by the use of chlorate of potassium as a gargle, although this case was so reported some months since (*Berlin Med. Wochenschrift*, April 20, 1885). Dr. Wilkie was led by the symptoms to suspect poisoning, and the small quantity of very dark, turbid urine which he drew off by means of the catheter suggested to his mind the chlorate of potassium. Inquiry showed that the patient had been using a solution of the chlorate very freely as a gargle continuously for a long time. Between the 9th of July and the 8th of August it was estimated that he had taken 4 pounds, or 1 3-5 ounces per day. In the latter part of his life the gargle was employed every hour. In spite of treatment, Dr. Wilkie's patient passed rapidly into collapse and died. A very careful autopsy, which is fully reported, seems to conclusively show that the case was one of poisoning by chlorate of potassium, and as this drug is one of our most used and most efficient remedies in angina, it is of great importance to determine how far we are to be influenced in practice by this untoward accident.

It is beyond cavil that the chlorate of potassium is an active poison; the smallest amount of it which will produce death is scarcely known, but in most of the cases of fatal poisoning reported in the adult the dose has been over half an ounce; a drachm of it has killed an infant a year old.

The symptoms of poisoning are fairly uniform. In the rapid cases there have been violent vomiting, profuse diarrhœa, excessive dyspnœa, a great failure of the heart's action, and marked cyanosis. In most of these cases the blood has been found of a chocolate color. In the subacute cases the gastro-intestinal symptoms have been severe, with general vomiting of blackish-green matter and distinct swelling of the liver and the spleen. The urine is markedly lessened in quantity, albuminous, often of an opaque reddish-brown or blackish color, showing under the microscope brownish or yellowish-brown tube-casts, often containing the detritus of blood-corpuscles. Hæmoglobinuria has been noticed, and methæmoglobin is a common constituent of the urine. The nervous symptoms have been severe delirium, coma, tonic and clonic cramps, and a peculiar stiffness of the extremities. Headache, loss of appetite, violent pains in the abdomen and other portions of the body, and marked abdominal tenderness have usually preceded the loss of consciousness. Not rarely upon the surface of the body are there minute ecchymoses, and even more frequently there is a general jaundice. In some cases the patient has rallied and seemed to be on the road to recovery, then the fatal relapse occurred.

After death the blood is usually chocolate-colored, the gastro-intestinal tract inflamed, the liver and spleen are enlarged and filled with the brownish débris of red corpuscles, the marrow and the brain are often similarly colored, whilst the mucous membranes are usually swollen and ecchymosed. The kidneys are profoundly affected, their tubules full of brownish casts, and their epithelial structure evincing a nephritis.

The effect which the drug has upon the kidneys makes its internal use especially dangerous in cases of diphtheria and scarlet fever, and we have no doubt that its too free employment has added very seriously to the mortality of these diseases. It certainly has no direct influence upon these diseases ; has no value whatsoever in their treatment save only for the slight effect which it has upon the sore-throat, and if given at all, should be administered with great caution, and in only very small doses.

The local use of the drug has been conceived to be harmless. In the case of Dr. Wilkie, the man evidently was a monomaniac on the subject, and although he denied it, in all probability habitually swallowed a portion of the gargle. In ordinary sore-throats, used three or four times a day as an ingredient of a gargle, the drug is an efficient one, and the small quantity of it that will be swallowed may be of service. It should be remembered that it is very freely eliminated by the salivary glands, so that when it is taken internally the parts about the mouth and throat are continually bathed in its dilute solution. It is in this way by a perpetually local effect that it is useful in ulcerated stomatitis of children. When, however, as in a bad case of diphtheria or scarlet fever, the whole mucous membrane of the throat is covered with thick exudate, it is to our mind absurd to think that the chlorate of potassium is of appreciable value. Remedies of more distinct power and more ability to destroy or make their way through the membrane are to be employed. The momentary application of any properly-diluted gargles under these circumstances is probably a very slight advantage. Local application should be made with a swab by the physician himself to the throat of the patient.

We do not think that the experience of Dr. Wilkie should prevent the habitual use of chlorate in mild cases of anigma, but it should give us caution in any attempt to make a very powerful local impression by very frequent use of it as a gargle in severe cases. After all, there are other remedies, even in mild cases, which are as efficacious, and are devoid even of the suspicion of deleterious influence.—*Therapeutic Gazette.*

# NOTE ON THE SUBCUTANEOUS INJECTION OF SALTS OF QUININE.

By Lauchlan Aitken, M.D., Rome.

Read in the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association in Cardiff.

The occasional necessity for the injection of quinine subcutaneously, not only in severe malarial affections, but also for antipyretic purposes, must have compelled many physicians to reflect on the best methods of avoiding the disagreeable consequences which too often follow such a use of most of the salts of that drug. So frequent, indeed, are the unpleasant sequelæ of this mode of employing them, that most practical men probably only reluctantly resort to it, where no other channel for the successful administration of the medicine seems available. It is beyond the scope of this short note to enter into any minute details of the nature of these accidents, to which, however, sufficient importance is not attributed, even in the most recent text-books. Both in my own practice, and more particularly in consultation, cases of the kind have come under observation. Of these, the most important have been one of a form of septicæmic poisoning, one of violent inflammation in the course of the veins, and one of a long persistent and very painful sciatica, all of which seemed certainly to be justly attributable to such hypodermic injections. Less important local evils are, of course, relatively much more common. Irritability and extensive erythema, ulceration of the skin and abscesses at the points of injection, and painful and lasting inflammatory indurations of the subcutaneous cellular tissue, are the most frequently observed of the minor injurious effects. Even when no local mischief ensues, the mere temporary pain, accompanying the hypodermic injection of salts of quinine, has been so marked as to induce many practitioners to try to mitigate it by adding morphine or atropine to the solutions they employed. It is probably owing to the unsatisfactory results from all such combinations, that nearly everyone who has been forced to make any extensive use of quinine subcutaneously, has thought it necessary warmly to recommend some one or other of its salts, or combination of its salts with other drugs, as the only effectual means of preventing the accidents which have been alluded to.

It is generally a violent and pernicious malarial complaints, in which both the stomach and rectum are so irritable that medicines are not retained long enough to permit of their satisfactory absorption into the system; or where, without such irritability, there is some mechanical obstacle to the administration of food and medicine by the mouth, and we wish to reserve the rectum for the purpose of nourishing the patient; and occasionally, too, in a few cases of hyperpyrexia, in which the danger from excess of heat is imminent, while other methods of reducing the temperature are contra-indicated, and every minute is of value, that resort must be had to the hypodermic injection of such powerful antipyretics as quinine, in quantities likely to produce a rapid fall of temperature. There are probably great differences of opinion as to the doses required under such circumstances, but I have thought it necessary, more than once, to put as much as thirty grains of quinine under the skin in a few hours' time. As it is scarcely possible to inject more than five grains at any one point—smaller doses, indeed, such as two or three grains, being distinctly preferable—the number of injections, and the pain produced, are matters of no small importance. The method I have latterly adopted has given decidedly better results than any previously tried, and can be stated in a few words. The two best salts of quinine to use are the bisulphate and hydrochlorate. Both are fairly soluble without acids, but the bisulphate has the advantage of being considerably the cheaper. One grain of that salt will dissolve readily in six minims of equal parts of the purest glycerine and of distilled water at the temperature of the body, and when thrown, at that temperature, into the looser subcutaneous cellular tissue—the only part into which quinine should be injected—will be rapidly absorbed without deposition of any crystals of the drug. To this solution two per cent. of pure carbolic acid must be added. Thirty minims of such a solution, containing five grains of the bisulphate, may then be used for one injection from a syringe of double the average capacity—now, as a rule, just about fifteen minims; and although it is probably better, as previously mentioned, to inject less at one point, no local or general injurious results have followed the numerous applications of the maximum quantity stated, which have been made since I have been in the habit of adding the carbolic acid to the diluted glycerine-solution of the quinine. The local anæsthetic action of the carbolic acid, too, is unquestionably of great value in diminishing the pain attending the hypodermic use of such an irritating medicine as quinine.—*Brit. Med. Jour.*

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TURPENTINE IN MALIGNANT TUMORS.—Prof. Vingt, of Barcelona, employs a hypodermic injection consisting of one part of turpentine and two parts of alcohol in carcinoma and sarcoma, and has frequently succeeded (as reported in the *Revista de Ciencias Medicas*, No. 1, 1885) in causing these neoplasms to disappear. A local inflammation with fever, lasting about eight days, was the usual consequence of the injection.

# ON THE PHYSIOLOGICAL AND THERAPEUTIC ACTION OF EUCALYPTUS GLOBULUS.

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If extensive applicability and promptness of action are the criterion of a standard remedy, the preparations of eucalyptus globulus have an unquestionable claim to be included in this category. Still, looking over an apothecary's prescription file, we would be surprised to find how rarely this drug is actually exhibited. To those, however, familiar with the clinical employment of the remedies in question, it must be clear that the practitioner's lack of practical acquaintance with, and confidence in, the drug, rather than any want of therapeutic energy on the part of the plant, have caused this condition. There can be no doubt as to the medicinal virtues of the various preparations of eucalyptus, when we consider that the tree itself, in its natural state, medicates by its powerful antiseptic properties a wide zone encircling its habitation.

We have noted in *La France Médicale* (Nos. 43, 44, 45, 1885) a series of interesting articles on the medicinal virtues of this justly-prized tree, from which we extract some practically important matters.

According to Chipier, the author of the papers quoted, the well-known disinfectant properties of the tree depend upon an essential oil contained in the leaves. The aromatic oil found in the other portions of the tree is credited with the other therapeutic effects of eucalyptus. The action of eucalyptole and eucalyptene, two other components of the eucalyptus-tree, have hitherto been but little studied.

In France five different preparations of eucalyptus are in use, viz: 1. A tincture made by an alcoholic maceration of the fresh leaves. 2. A tincture obtained from the dry leaves by the same process. 3. An alcoholic extract. 4. A wine. 5. A liniment prepared from the essence. It is interesting to note that the preparations used in Italy against the marsh-fevers in Rome and its vicinity all come from a place called Trois-Fontaines, and have the form of a highly concentrated ethereal extract and an alcoholic elixir. The physiological action of eucalyptus is sufficiently interesting to repay us for briefly reviewing it.

All preparations are marked by a peculiar, strong odor, suggesting the essence. If a few drops of any eucalyptus preparation are placed on the tongue, a sensation of pungent freshness, soon followed by one of warmth, is experienced, the latter being due to an hyper-secretion of the salivary and buccal glands. Its ingestion into the stomach creates a similar sensation of warmth, and, besides, an emission of its characteristic odor by the mouth. The urine reveals a faintly violet coloration, indicating the passage of the drug through the system.

The fact that eucalyptus, like balsams and essences, impregnates the mucous membranes in particular, suggests at once the utility to be derived from the drug in inflammatory conditions of the respiratory and urinary mucous passages.

Larger doses of the drug produce headache, malaise, general fatigue and prostration, and even, as shown by Gimpert, fatal results in animals by paralyzing the reflex motor centres of the spinal cord.

From the manifold therapeutic applications which eucalyptus has found in the course of time, we will only review such as have earned a claim to our confidence.

Rumel is to be credited with having first suggested the idea of planting the three with the view of thus ridding a territory from the baneful marsh and malarial fevers. The same object led to its cultivation in the English Cape colonies and the western shores of Middle Italy. It was this ingenious transplantation of the Australian tree to the vicinity of Rome that entitled the Trappists of Trois-Fontaines to recover and render inhabitable a vast area formerly exposed to the ravages of malaria. It is highly probable that the disinfectant power of the tree depends upon its capacity to absorb large quantities of water from the surrounding soil, and to thus desiccate the germs of malaria. The success of this soil-medication in Italy, Algiers, Cuba and South America, naturally suggested the employment of eucalyptus in intermittent fever. Of an infusion of 8 grammes (2 drachms) of the leaves in 120 grammes (5 oz.) of water, a cupful is usually given twice daily. It is well to remember the antiperiodic virtues of eucalyptus in cases in which quinine has either failed or is contraindicated. In fact, eucalyptus is better borne by the digestive system than quinine, fatigues the stomach less, and is far less expensive. Still, it would be wholly erroneous to think of any possible therapeutic equivalence of eucalyptus and quinine. An honorable and noteworthy rank as an auxiliary remedy in miasmatic fevers is all that can with propriety be claimed for the preparations of eucalyptus.

The statement that eucalyptus asserts its antipyretic character also in the thermal elevations of tuberculosis and cancer appears, if true, to us all the more noteworthy, as its virtues in this direction have been almost generally overlooked.

Important as the antimiasmatic and antipyretic properties of eucalyptus unquestionably are, it is in the laryngeal and bronchial inflammatory affections that the drug renders its most signal services. Its action in this respect rivals that of turpentine and tar, and offers even advantages in being better borne by the digestive organs, and being earlier administrable. When, in the case of bronchitis, the febrile elevation has fallen and the so-called catarrhal stage has been reached, eucalyptus positively diminishes the expectoration, and renders it less purulent. This peculiar effect of eucalyptus on the bronchial expectoration can be relied upon, especially in the fetid form of bronchitis, in bronchial dilatation and emphysema. Chipier quotes several cases of pulmonary gangrene and tuberculosis in which this modification of the expectoration wrought by eucalyptus was very obvious.

A few more words on the especial value of the drug in pulmonary consumption will not be out of place. Though no rational physician will look for any specific or even curative virtues regarding consumption in eucalyptus more than in any other drug, it must be confessed that the peculiar combination of antiseptic and anticatarrhal properties places eucalyptus at the head of all remedies from which any amelioration of the local tissue-decomposition can be expected. In Italy the drug enjoys the enviable reputation of positively benefiting tubercular patients. Dr. Gimpert, of Cannes, a well-known specialist of that famous tubercular sanitarium, expresses himself in terms of highest praise of eucalyptus in the various tubercular processes. He warns, however, against exhibiting the drug in too large doses, lest hæmoptysis should set in.

Without wishing to contradict the assertion of those physicians who succeeded in obtaining definite advantages from eucalyptus in tubercular affections, we must express our astonishment that, provided the drug did possess the alleged capacity, such effects should have been wholly unknown in this country. At all events, it appears advisable to exhibit the various preparations of eucalyptus in the manifold affections in which its reputation is either firmly established or merely alleged. It will do no harm in either case, and might be conducive to valuable results in both.

The value of eucalyptus in the various catarrhal affections of the urino-genital apparatus is likewise great.—*Therapeutic Gazette.*

## THE BIOLOGICAL EXAMINATION OF WATER.

The *Lancet* of September 26th comments with enthusiasm upon a scheme for testing the sanitary fitness of water, recently developed through the labors of Dr. Koch, in the *Reichs Gesundheits Amt.*, Berlin. The method seems to have met with high favor in England, the eminent Dr. Percy Frankland having adopted it in his recent study of filtering and precipitating agents, where he has successfully put it to the test. A complete account of the process, by Professor Warden, of the Calcutta Medical College, has been published in the *Chemical News* and reprinted in pamphlet form for further distribution :

'The system consists essentially in mixing a known volume of water with 'sterilized liquid meat peptone gelatin,' counting, after a definite period, the colonies of micro-organisms which develop, observing the extent to which they liquefy the gelatin, and, if necessary, cultivating them in various ways. The utmost possible care is of course necessary in these operations, and special apparatus is required. The paper gives full directions and illustrative drawings, and the importance of the system is well illustrated by Prof. Warden, when he reminds us that a drop of a cholera stool added to a liter of pure sterilized water could not be detected by chemical analysis, whereas the bacteriologi calexamination would 'with absolute certainty demonstrate the presence of a comma-shaped micro-organism, while subsequent cultivation would indicate whether the organism was the cholera bacillus or not.' "

This is certainly *pari passu* with modern doctrines regarding the etiology of contagious and infectious diseases, and as means for the sharp differentiation of the various species of pathogenic microbes become known, the testing of the sanitary purity of water by the biological method will advance in scientific value and popularity. It can be undertaken, however, only by the expert micro-biologist who can bring to bear upon his suspected specimens and final cultures every check against accidental contamination ; who, at the end of the process, can read his results with a practiced eye and estimate the pathological significance of the crop by experience gained through hard labor in many a similar harvest-field.

Indeed, it is doubtful, in the present darkness under which lies the question of the nature of the *materies morbi* of diseases known to be transmissible through drinking-water, if even the most expert micro-biologist could do more than say that a given specimen of water is prolific of microbes, some of which may be inimical to health. The bacillus of cholera may perhaps be excepted, but, if so, it only proves the rule.

Now the chemist, inaccurate and unsatisfactory as he knows to be all methods within his reach for the sanitary testing of water, can give an answer quite as satisfactory as this ; for, after making all due allowances for leaks in apparatus and inaccuracies in measuring, and discounting his personal equation in estimating by depth of color the amount of albuminoid ammonia down to the third decimal point in fractions of one part per million of the suspected specimen, he can at least say that the water is dirty or clean within or beyond the limit of safety to the drinker. And this testimony, when taken with a view to the surroundings of the water-supply and prevailing zymotic diseases, is of large sanitary significance, resulting under authority in the sealing up of the sources of many an endemic. But since the work of the chemist upon this point is difficult, harassing and out of accord with the usual accurate revelations of his methods, there is little doubt that he will be most happy to turn over to his brother scientist his stock and interest in the testing of water for sanitary purposes.—*Louisville Medical News.*

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**Dr. Thomas J. Moore**, formerly of North Carolina, and for several years a member of the Medical Society of this State, has been honored with an election to the membership of the Virginia Board of Medical Examiners. Dr. Moore has been for several years a resident of Richmond.

# THE ACTION OF DIURETICS.

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At the recent annual meeting of the British Medical Association (*British Med. Journal*, August 22, 1885) in Cardiff, D. E. Long Fox opened the discussion in the section of pharmacology and therapeutics on the action of diuretics with a concise account of the physiology of the kidney, and called attention to the ways in which these physiological points may be practically employed in the administration of diuretics.

As a consequence of the fact that increase of general arterial pressure increases the secretion of the kidney, a large amount of water is one of the best diuretics. A similar effect is induced by augmenting the force and frequency of the cardiac beat by ammonia, iron, digitalis, strychnine, squill, alcohol in moderate doses, ether, belladonna, convallaria majalis and broom; whilst chloroform, aconite, opium Calabar bean, quinine, camphor and veratrine may stimulate the heart in small doses, and depress it in larger ones. In many individuals, however, remedies of this class act as cardiac depressants from the first.

Among the excitants of arterial tension, and so secondarily of diuresis, are the bromides, ergot, belladonna, nitrate of potassium, digitalis, squill, nux vomica, and cold to the surface of the body.

If the general arterial pressure remain the same, and diuresis be effected by dilatation of the renal arteries, the vaso-motors of the kidney are either under the influence of some depressing emotion, or the vaso-constrictors of these arteries are rendered paretic by a class of remedies that may be called "local depressants of the renal nerves.' Among these, Dr. Mitchell Bruce enumerates digitalis and squill in the second stage, spirit of nitrous ether, all volatile oils and resins, such as turpentine, etc., juniper, copaiba, hop, savin, cantharides, camphor, alcohol, belladonna, aconite, the nitrates and nitrites. Of these, alcohol and belladonna only act as nerve-depressants after long-continued use, or in large doses.

When suppression of urine occurs in the course of an acute exanthem, such as small-pox, scarlet fever, or typhus, or in septicæmia, the cause is a twofold one: first, a loss of general arterial tone; and secondly, a paretic dilatation of the renal vessels. Both these phenomena may be induced by the paralytic influence of the specific poison on the medulla oblongata. The renal symptoms are seldom amenable to ordinary diuretics. Ergot and strychnine are sometimes useful.

The function of the cells of the convoluted tubes is mainly the excretion of solids. The condition of arterial blood-pressure has, therefore, only a very indirect influence on the action of this portion of the kidney. Still, the excretion of water is double, namely, first, from the glomeruli; and secondly, from the venus plexus round the tubules, along with the urea; and this venous plexus is indirectly influenced by blood-pressure, as it has a direct communication with the renal arteries.

The amount of fluid, however, that is brought to the convoluted tubes has some effect on the amount of solids excreted. The taking fluids in large quantities acts on this portion of the kidney, not so much by way of augmenting the blood-pressure, as by exciting the cells of these tubules to active work, and enabling them to separate the solids from the blood.

This effect is also induced by saline diuretics. These may, *per se*, stimulate the renal cells; but they act much more by taking up watery fluids, carrying them to the kidney, and so, by flooding the tubes through the tube-walls, exciting the cells to the secretion of solids. It has been proved by experiment that secretion may go on by means of the tubules, by injecting the specific potential constituents of the urine, even when the vascular tufts are excluded. Speaking roughly, however, diuretics that stimulate the renal cells do so by increasing their active power for the separation of effete material brought to them in that condition by the blood.

The salines that influence the activity of the renal cells, and bring with them some of the watery elements of the venous plexus round the tubules, vary in power. Salts of lithium and potassium act better than those of sodium and ammonium; sodium salts better than those of ammonium. Lithium salts combine with a much larger relative proportion of uric acid than the salts of potassium or sodium. Probably all the potassium salts stimulate the renal cells effectually; but the acetate, citrate, nitrate and tartrate are the best for this purpose.

Many of the substances already mentioned—juniper, copaiba, turpentine, cantharides, the resins, etc.—act not only as local nerve-depressants, but as direct stimulants to the renal cells. Dr. Bruce's list is a long one, and includes juniper, copaiba, oleum terebinthinæ, savin, piper, cubebs, the salicylates, caffeine, uva ursi, pareira, buchu, arnica, aconitum, scoparium, guaiacum, camboge, cantharis, the volatile oils, the oleoresins, the resins and balsams, jaborandi, lobelia, dulcamara and alcohol. Of these agents, some stimulate the renal cells without increasing the amount of water, and others do both. The difference depends on whether the drug dilates the renal vessels whilst stimulating the renal cells. Juniper does this, and copaiba to a less degree; and thus diuresis is markedly increased. Many other substances, that stimulate the cells to a greater excretion of solids, may induce no diuresis, and, indeed, may have an opposite effect.

Thus, therefore, combination of diuretic remedies is useful. Dr. Laüder Brunton remarks that digitalis by itself might arrest renal circulation and secretion, and that it should be combined with some drug that dilates the renal vessels, like the nitrite of sodium, whilst the blood-pressure remains high. But, in most cases, the union of remedies that cause a full flow from the glomeruli with those that excite the activity of the renal cells, leads to a more complete depuration of the blood; and herein, again, we may give honor to our predecessors, in that they discovered by observation what we now are able to explain physiologically.—*Therapeutic Gazette.*

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TREATMENT OF GOUT.—In the treatment of an acute attack of gout, Dr. J. Mortimer Granville recommends: First, the free use of chloride of ammonium, with chlorate of potash in dilute solution, as an efficient diuretic, which operates without increasing, but on the contrary relieving, any irritation or congestion of the kidney which has occurred. Second, the employment of iodine in the form of the tincture, with glycerine and water in large quantity. The mixture, disagreeable as it is, affords so much relief from pain after each dose that the patient will generally be anxious to repeat it, and opium or any other anodyne may usually be dispensed with. After the more urgent symptoms are relieved, a grain of quinine should be added to each dose of the iodine mixture. On the other hand, if this mode of treatment should fail from any cause, Dr. Granville advises us to fall back on colchicum, administering the wine of the root in half drachm doses, with a saline or alkaline carbonate.—*American Journal Medical Sciences.*

# REVIEWS AND BOOK NOTICES.

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A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. By ALFRED VOGEL, M.D. Translated and Edited by H. RAPHAEL, M.D. Third American Edition. Illustrated by six Lithographic Plates. Pp. 640. New York: D. Appleton & Co., 1, 3 & 5 Bond Street, 1885. [Price $4.50, cloth.]

Medical literature has recently been enriched by excellent works on the diseases of children, so that the field may be said now to be fully occupied. The appearance of the third American edition of *Vogel's Diseases of Children* is not superfluous, as any student may determine by carefully perusing the volume we have under consideration. It is not a new work to Americans by a great deal, but cannot be said to have taken the same hold upon them as the rival treatises from American and English sources. This edition, which is a reproduction of the eighth German edition, with notes by the translator and the addition of an article on cerebro-spinal meningitis, gives us essentially a new volume, in which the arrangement of subjects is well ordered.

The introduction is of special value, treating of the anatomo-pathological observations of the infantile organism—respiration and circulation, secretion, growth—general rules for the examination of children, and the nursing and care of children. Under the last head the reader will turn to the subject of artificial feeding, to find a very thorough statement of our present knowledge of the comparative relation of woman's and cow's milk—a subject the proper understanding of which is the basis of our knowledge of feeding. The author asserts that "the milk of a good wet-nurse should contain from 3 to 3.5 per cent. of casein," and that "the essential difference between woman's milk and cow's milk does not consist in the differences of the quantities of milk-sugar and of the butter, but in this: *that the casein of cow's milk, when it turn's sour, curdles into large lumps, and even into a solid gelatinous mass; whereas the casein of woman's milk always coagulates into small lumps and loose flakes.* The latest authority we have upon the chemical constitution of human milk (Dr. Arthur V. Meigs) states that the amount of casein to be found in human milk is from 2 to 2½ per cent.

The doctrine as to the time and manner of weaning an infant is clearly set forth, and the author considers that "it is useless, and, for most mothers injurious, to suckle their children beyond the first year." He then gives a remarkable instance of self-weaning which will not fail to provoke a smile: "I once treated an American lady, who still suckled her son, who was *two and a half years old*, till one morning, when the strongly-developed, robust child was called to be nursed, he very kindly replied: 'I thank you, dear mamma, the nursing is too tedious for me.'"

Trismus neonatorum, according to his experience, and that of the most extensively employed children's physicians, "invariably leads to death." He suggests tincture of opium and chloroform, but thinks the most rational treatment is "not to allow the child to perish by inanition." The editor ventures to suggest the employment of chloral hydrate, but seems not to be aware that *several* (an indefinite statement—but four have come under the writer's knowledge) cases have been successfully treated by means of chloral hydrate alone and combined with bromide of potassium.

The treatment of prolapsus of the rectum, while it contains nothing very new, is full of good suggestions. He says: "Experienced nurses know the value of holding children [afflicted with prolapse], suspended in the air during defecation, and at the same time of compressing and supporting the anal orifice as a means of preventing the prolapse of the bowel." Recently a very ingenious device has been designed by Mr. Chamberlain, or Tarborough, consisting of a water-closet seat, which is so constructed that the bowel is supported during defecation. The practical results are very gratifying. Some of the surgical diseases and deformities requiring surgical operations are given and others are omitted. Hare-lip is treated of as an obstacle to nursing, etc., and then full instructions are given for the surgical remedy of the deformity.

We note that some of the prescriptions given are obscure, owing to the employment of names not in use in our pharmacopœia, and some are abbreviated beyond certain recognition.

Pulverized sem. cinæ and cinæ seed are used in the place of the generic term santonica—a little confusing to some readers, and *op. pur.* stands as an abbreviation for *opii puræ.*

There is a very large amount of good teaching in this volume, which can be found nowhere without we might except Rilliet & Barthez's *Maladies des Enfans*, and so the owner of the other excellent treatises we have from time to time reviewed in these pages can, by the addition of this volume, have a very complete library of the diseases of children. The translator's notes are very serviceable, adding enough material from American experience to adapt the text to American practitioners. In the present shape Vogel on Children is destined to attain a larger circulation than ever before, notwithstanding its able rivals.

MILK ANALYSIS AND INFANT FEEDING. A Practical Examination of Human and Cow's Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By ARTHUR V. MEIGS, M.D. Philadelphia: P. Blakiston, Son & Co. [Price $1.00.]

Our readers have probably become interested in the analyses performed by Dr. Meigs, an abstract of which we gave them in the JOURNAL. He has pursued his investigations so zealously that we must confess ourselves to having become convinced that the casein of human milk has been greatly overstated by most of the chemists accepted as authority. The practical bearing of this old error was to regard cow's milk as so little different from human milk that it could be used as a substitute for it without much preparation, and consequently infants were fed with a milk with far more casein than could be digested, and casein that was by far more compact and impenetrable by the fluids of the stomach, even in the same quantities. The author puts the casein in human milk in one place at 1.046 per cent. (p. 40), instead of 4 per cent., although the author admits (p. 65) 2 to 2½ per cent., but "many further analyses are necessary to establish absolutely this point."

He recommends as a substitute for mother's milk 2 tablespoonsful cream, one of milk (ordinary milk—not Jersey), two of lime-water, and three of a solution of sugar of milk in the proportion of 17¾ drachms of sugar of milk to a pint of water. As soon as the mixture has been warmed it may be poured into the bottle and the food is ready for use.

Dr. Meigs cannot recommend condensed milk. He could not doubt, if he were to see how much more safely it can be managed than cow's milk in families where ignorance of all the principles of infant feeding abounds. Condensed milk (the Eagle Brand) has the advantage of keeping well in hot weather—deteriorating very slowly, even after it has been opened—is partially cooked, is sweetened with milk sugar, and can be made to approximate human milk with less chance of error than cow's milk taken at hap-hazard from this and the other dairyman. It is a great blessing to poor families where artificial feeding must be resorted to, and thousands of rosy-cheek babies in this country testify to its value.

There is food for thought in this little volume, and it can be read with advantage by the chemist and practitioner.

THE SCIENCE AND ART OF MIDWIFERY. By WILLIAM THOMPSON LUSK, A.M., M.D. New Edition. Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. 763. [Price (cloth) $5.00.]

The first edition of Lusk's midwifery was issued in 1882, and we believe we risk very little in saying that in the short time it has been before the public no American work in any department of medicine has attained such a degree of popularity, and none are better, and very few as well, known to the rising generation of doctors. We do not wish to convey the idea that the work is popular in the sense that other works are popular, because of learning made easy, but because the science and art of midwifery are taught in a thorough, and at the same time attractive, method. The size of the present volume is notably increased, and some of the cuts of the first edition supplanted by very superior ones.

The author says "the activity that has prevailed in the study of obstetric phenomena, and in the perfecting of obstetric practice in the short space that has intervened since its first appearance, has necessitated many changes in the text, and has led to the nearly complete rewriting of entire subjects. Many statements which three years ago were advanced with diffidence as theoretically probable, have recently been shown to be capable of scientific demonstration, whereas a few, with more modern light, have been omitted in the process of revision." It is with special gratification that he draws attention to the triumph of the modern doctrines concerning the nature of puerperal fever, and to the wonderful results that have proceeded from the application of Mr. Lister's teachings to the hygiene of lying-in hospitals. "The latter have ceased," he says, "to be pest-houses, and it is now a question whether forlorn women, confined in properly conducted maternities, are not actually safer in child-bed than the fortunate classes in their own homes."

All that part of the work relating to the hygienics of the lying-in chamber and the antiseptic management of labor has been rewritten. Proper stress is laid upon the necessity of regarding puerperal fever in the light of a preventable disease, and the injunctions laid down are fully up to the requirements of our increasing knowledge.

We note one singular blunder on page 694, where a formula is given for suppositories, concluding with the direction "Ft. bacilli No. iij.," and further on says the "*iodoform bacillus* should be seized by a pair of polypus forceps and pushed into the cervical canal."

The index is thorough, the typography is of the best, the illustrations are clearly cut, and consist of selections from the works of acknowledged masters in obstetrics, and, in short, the volume has been produced in the very best manner by the publishers, and at a price which places it within the reach of all.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by WM. PEPPER, M.D., LL.D., assisted by LOUIS STARR, M.D. Vol. III. Diseases of the Respiratory, Circulatory and Hæmatopaietic Systems. Philadelphia: Lea Brothers & Co., 1885.

The value of this great work develops more and more as it progresses. Having reached the third volume, its proportions can now be fairly estimated. While all the articles contributed are not equally meritorious, none of the work falls below a good standard, and most of it is the best known to American medicine. In this volume we find contributions, among others, from Drs. Carl Seiler, Harrison Allen, Abraham Jacobi, W. H. Geddings, Samuel C. Chew, William Carson, Alfred L. Loomis, William Pepper, Austin Flint, Frank Donaldson and William Osler—names which alone give assurance of the value of the articles.

The reader will turn with increased interest to the article on Pulmonary Phthisis, from the pen of Dr. Austin Flint, for there is not in all the range of disease one that is so important to the whole human family. Dr. Flint discusses all the modern theories of contagion, of a specific contagium vivum, and succeeds in picturing the pathological and clinical aspects of phthisis in a way that it will repay everyone to study carefully.

In regard to marriage of phthisical couples Dr. Flint says:

"Medical opinion is sometimes asked concerning the propriety of marriage with a phthisical man or woman. As an abstract question there need be no hesitation as to the answer. If men went about deliberately selecting wives, or *vice versa*—as, for example, horses are selected—there could be no doubt that phthisis should be considered a disqualification. Husbands and wives, however, are not mated in such a way. A marriage engagement has been entered into, and afterward one of the parties becomes phthisical. The friends of the non-phthisical party, not the parties themselves, come for advice, and the adviser is sometimes placed in an awkward situation. With respect to the effect of marriage on the tuberculous party, my analysis of 17 cases, 2 only being women, did not show that it was unfavorable. Were it unfavorable, considerations of sentiment and sense of duty generally outweigh all others. A more important point relates to offspring. A hereditary tendency is entailed in some, but not in all cases. The risk incurred in this point of view having been fairly stated, the responsibility of the medical adviser is ended."

We have little to add to our favorable opinion of former volumes of this "System." It will assuredly be the standard reference book on the practice of medicine for American physicians for years to come, and no library can afford to be without it. It is a subscription work, and orders must be sent for the entire set of five volumes.

### A Doctor's Experiences in Three Continents. By Edward Warren, M.D., C.M., LL.D.

The career of Dr. Warren has been a most eventful one, and he is correct in supposing that a narration of it would prove interesting to the reading public, even those who did not know him personally. The book is made up of a series of letters written to Dr. John Morris, of Baltimore, and is really an autobiography.

The incidents narrated are very readable, and serve to recall to many of those now living, and, perhaps, actors in the same, very eventful things in North Carolina and in the Confederacy.

We cannot vouch for the accuracy of some of the historical matter, his account, especially, of the surrender of Raleigh, having already had a version very different from the one here given.

Dr. Warren held high offices in North Carolina, and at a very early age was recognized as a very accomplished physician. He was chosen as the first editor of the (old series) of this JOURNAL when it was published under the auspices of the State Medical Society, resigning his position to assume his duties as Professor of Materia Medica and Therapeutics in the University of Maryland.

The book is never prosy, and covers a career in America, frica and Europe—so full of stirring incident—and will be read with pleasure, especially that part referring to the war in the Southern States.

Those of our readers who want a very entertaining book out of the old beaten paths of standard fiction, will find in "A Doctor's Experiences in Three Continents" most agreeable diversion.

THE USE OF THE MICROSCOPE IN CLINICAL AND PATHOLOGICAL EXAMINATIONS. By DR. CARL FRIEDLANDER. Second Edition. Enlarged and Improved. Translated by HENRY C. COE, M.D., M.R.C.S. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. Pp. 195.

This work is intended as a guide to students in the pursuit of clinical and pathological studies. The aim of the author has been to give a concise statement of the processes employed in pathological histology.

The choice of a microscope, its accessories, the reägents used in microscopy, micro-chemistry and modes of preparing specimens occupy over 100 pages.

Directions for the observation of the circulation in frog's web, tongue, mesentery and the cornea are concisely given, and the book closes with directions for examination of the living and pathological fluids of the body, and the solid elements, such as extirpated tumors. The schizomycetes are described under the head of fluids, and a frontispiece colored plate is introduced to exhibit a comparison between the microscopic appearances of the most interesting specimens reputed to have pathological significance.

The work is a concise and handy volume, which beginners will do well to procure.

EPITOME OF DISEASES OF THE SKIN. By LOUIS A. DUHRING, M.D. Reported by HENRY WILE, M.D. Philadelphia: J. B. Lippincott & Co., 1885. [Price 60 cents.]

Some of the lectures contained in this little book have appeared in the JOURNAL, and our readers have already had an opportunity to peruse them. They cover the whole ground of dermatology, and the matter is stated in a simple, concise and practical manner. Dr. Duhring desires it to be considered an epitome of dermatology, and as such it is an admirable introduction for the student into the more complete works.

DOES MEDICINE PAY?—Ask your country doctor, who has not read a book in two years, and who cannot conscientiously swear that, of his own knowledge, his faithful beast of burden that carries his charlatan weight to his patient and helpless patients, year after year, has had ten ears of corn since he bought him of a drover and paid for him with a thirty-day draft drawn on a commission merchant who has a mortgage on his home place. Ask him. He will tell you that it does not. It is hard for him to make collections, and seven other devilish reasons prevent. The truth is, he does his work carelessly, he is dilatory in going to see a patient, and more so in leaving him. He never presents a bill and presses it properly and honestly to payment, but dilly-dallies until the debt spoils with age. Bills are like babies—they have to be looked after, and can walk at twelve months. Ask your active doctor, who rides a good horse, comes when he is sent for, goes when he is through—who sits in the saddle, and not in the shady-side of the front porch of the country store—ask him—but you need not—you can see that it does. The man is healthy; his family is well clad; his children are up head and leading at the district school.—*Raleigh Register.*

INGROWING TOE-NAILS may be managed by applying a mixture of French pine resin [try the N. C. window-glass rosin] and carbolic acid. A single drop is applied to the painful spot, and after two or three applications the toe-nail may be raised without pain.—*Md. Med. Jour.*, *Therap. Gaz.*, *Am. Jour. Phar.*

# CURRENT LITERATURE.

## ANTIPYRIN:

### Abstract of current opinion and experiences with it as a therapeutic agent.

Antipyrin is a synthetically prepared alkaloid. The commercial drug is dimethylchinicine. It is a white powder, very readily soluble in water; taste sweetish-bitter and rather pleasant. Its solutions give with ferric chloride a deep red, and with nitrous acid a greenish-blue. Dose: Thirty grains hourly for three hours. For children a grain and a half for every year of the child's age may be given hourly for three hours. If it causes vomiting it may be dissolved in half its weight of hot water and injected subcutaneously.

*Action.*—It reduces the temperature for several (1–20) hours, when given as above, in two or three doses, and when its effect has passed off the rise of temperature which then occurs is less frequently accompanied by rigor than is the case with *kairin.* It causes profuse perspiration. It slightly increases the blood-pressure. It has no action on the respiration. It is excreted in the urine. It sometimes, though rarely, causes vomiting, and very seldom causes collapse. It is used in febrile diseases generally. It seems specially useful in typhoid fever and phthisis, but is also useful in erysipelas, surgical fever, pleurisy and pneumonia. (BRUNTON's Pharmacology and Therapeutics, p. 695.)

Dr. Huchard terminates a lecture on the therapeutics of the new antipyretic antipyrin, which he delivered at the Hôpital Bichat, with these conclusions:

"1. Antipyrin constitutes a powerful and certain means of lowering the temperature in almost all febrile diseases, as typhoid fever, pulmonary phthisis, pneumonia, pleurisy, acute articular rheumatism and cerebral rheumatism, angio-cholitis, erysipelas, diphtheria, puerperal fever, scarlatina, phlegmon, abscess, etc. It mitigates the symptoms which are due to the pyrexia, acceleration of the pulse and respiration, dryness of the mouth, etc., but it does not seem to possess any *direct* action on the respiration and circulation.

"2. It is an antipyretic but not an antiperiodic, whence its inefficacy in intermittent fevers as a *preventive* of the paroxysms.

"3. Its administration only gives rise to slight and occasional complications, such as moderate sweating, pharyngeal constriction, slight nausea or vomiting, and in some relatively rare cases to a rubeoliform or scarlatiniform eruption. No tendency to collapse is produced, nor any intoxication such as is caused by preparations of cinchona and salicylic acid.

"Numerous observations have demonstrated that it constitutes a powerful, and up to the present time the sole, means of efficaciously lowering the temperature in tuberculous subjects. After a dose of two grammes, administered especially in the evening at the time of the recurrence of fever, the temperature falls half a degree Centigrade, by the end of half an hour, and sometimes after a quarter of an hour. It then diminishes progressively, until the normal temperature is attained in an hour and a half or two hours. It is, however, sometimes necessary to prescribe an hour or two later another dose of one or two grammes; but in phthisical subjects it, in consequence of the very certainty of its actions, and with the aim of avoiding accidents that may be induced by hypothermia should only be administered in small and increasing doses, as from two to four grains.

"5. The antithermic effect is ordinarily maintained in these patients for from six to nine hours, and is sometimes perceptible on the following day, during which the temperature does not regain its previous height. The subsequent rise of temperature takes place progressively, resembling in that the course of defervescence. It is never sudden, as with kairin, and is never accompanied, like the latter substance, with more or less prolonged shivering.

"6. It is eliminated in the urine, in which its presence is recognized two to four hours after its administration, during a period of from 30 to 48 hours. Some drops of perchloride of iron poured into urine of patients taking this medicine immediately produces a highly characteristic red color.

"7. Dr. Huchard cannot speak from his own experience as to its effect in typhoid fever; but he is disposed to regard the doses of from six to eight grammes per diem, recommended by various observers, as excessive, as in several of the cases in which they had been employed a condition of hypothermia has been induced, the temperature falling to 35° or 36° C. In typhoid fever, also, the temperature, after having been lowered, will about the fifth or sixth day rise again a degree Centigrade for about an hour, after which time it resumes its regularly descending progress. Dr. Huchard has also noted the same temporary ascent of the temperature during the apyrexia, due to action of antipyrin on the fever of phthisis."—*Huchard in Union Médicale Nov.* 29, 1884.

In the *Prager Medicinische Wochenschrift* for October 1, 15 and 22, 1884, Prof. Pribram publishes the results of his studies with this new antipyretic. Chemically it is described as *dimethyl chinicin*, and is a yellowish powder extremely soluble in water or alcohol, and, therefore, well adapted for subcutaneous injection; with a bitter taste very much less marked and less disagreeable than that of quinine, of which it is a derivative. Antipyrin has been used with success as an antipyretic by Pribram in typhoid fever, pneumonia, erysipelas, tuberculosis, acute rheumatism, and various other acute febrile diseases in doses of from 10 to 30 grains, administered in powder or in watery solution. As a rule, not more than 60 grains should be given during one day, although in typhoid fever much larger doses may be given with impunity. The only unfavorable result which he mentions, as a consequence of the use of this drug, is occasional vomiting. His conclusions are as follows:

"1. Antipyrin is an invaluable means of reducing the temperature in fever and its concomitant symptoms (rapid pulse and respiration, dryness of the tongue and delirium).

"2. These favorable results are produced in cases in which quinine has either failed, or in which it is only active in very large doses.

"3. It further possesses an advantage over quinine in its great solubility.

"4. It is well suited for administration by the rectum.

"5. It is preferable to the cold water treatment of fevers on account of its ready employment and easy control.

"6. It surpasses kairine in the duration of its effects, and its action is free from the danger of collapse and rigor which often follows the use of kairine.

"7. Antipyrin appears to be of special value in the treatment of typhoid fever, tuberculosis and pneumonia.

"8. In acute rheumatism it appears to be as efficacious as salicylic acid.

"9. Its use in advanced cases of tuberculosis tends to diminish the loss of body weight; it has, however, no effect on the sweats of phthisis.

"10. The only unfavorable results so far noted are occasional vomiting and the production of an exanthematous eruption. Collapse occurred in one case in which it was employed, not, however, distinctly due to this drug. Caution is, however, advisable in cases of cardiac weakness.

"The testimony of numerous other observers (*Schmidt's Jahrbücher*, October 21, 1884, p. 127) is in harmony with these results. In all cases of febrile diseases (pneumonia, scarlatina, typhoid fever, relapsing fever, measles, erysipelas, pleurisy and phthisis) it produced a marked reduction in temperature, which may be prolonged for from 10 to 20 hours; the pulse and respirations are also reduced in frequency, and no abnormal alteration occurs in the urine. After extended trial at the hands of several physicians, the only objection that can be urged against antipyrin is that it occasionally produces vomiting; but this, according to Rank, may be avoided by administering it subcutaneously. So given, its effects are perfectly sure and more rapid, and never cause any general or local disturbance."

Antipyrin sometimes produces a peculiar exanthematous eruption most marked on the chest, the back and the belly; the face and neck are always exempt. It seems to take large doses to produce the effect. The average diameter of the patches is one-half to two-thirds of an inch. The treatment need not be interrupted, as the eruption disappears in spite of the continued use of antipyrin.

Dr. Penzoldt, in *Deutsche Medizinal Zeitung* (*Therapeutic Gazette*), gives the following conclusions respecting the use of antipyrin for children:

"1. Antipyrin must be regarded as a remedy well indicated and appropriate in febrile affections of children.

"2. In proper doses the drug causes a reduction of febrile temperature amounting to several degrees (Reaumur) and lasting several hours.

"3. Reduction of the rate of the pulse does not always correspond with the degree of reduction of the temperature.

"4. The effects on the general feeling are usually favorable.

"5. Occasional vomiting was the only unpleasant symptom ever observed after its use. If vomiting occur persistently, administration by the rectum is to be resorted to.

"6. As regards the dose, as many decigrammes (1½ grains) are to be given hourly for three consecutive hours, as the child counts years; this quantity is to be increased, if it prove insufficient, as will often be the case in small children. An enema may be of a strength of from three to six times as many decigrammes as the child counts years.

"7. The organism, in a prolonged employment of antipyrin, appeared but rarely to become habituated to its use."

Dr. William H. Draper, in a paper read before the New York Academy of Medicine, drew the following conclusions about the effects of antipyrin:

"1. It is an efficient means of reducing temperature.

"2. It is apparently a safe means of reducing temperature if prudently administered and carefully watched.

"3. While it has not, so far as present experience demonstrates, markedly modified the progress or aborted diseases in which it has been administered, it contributes to the comfort of those suffering from high fever.

"4. The unpleasant effects in some cases are more than counterbalanced by its advantages.

"5. Future experience and modifications in methods of administration may so modify its effects that it may prove to be a precious contribution to the art of healing."—*Therapeutic Gazette.*

In the *New York Medical Journal* (May 2, 1885), Dr. G. B. Butler gives the following resumé of his experience in hospital practice with antipyrin:

"1. Antipyrin is a certain, safe and powerful antipyretic in almost all diseases attended by high temperature, but it is not an antiperiodic.

"2. It is especially useful in typhoid fever, pneumonia and phthisis, producing the apyrexia of quinine, salicylic acid and cold baths, without the concomitant unpleasant effects of the latter.

"3. The reduction of temperature occurs rapidly, and persists for an average of twelve hours.

"4. Its dose is double that of quinine: 3 grains for a child under one year of age, 7 grains under five years of age, and 30 grains for an adult form the usual maximum dose. Half the quantity may be given subsequently at intervals of one, two or three hours, according to indications."—*Therapeutic Gazette.*

A few well-authenticated deaths have occurred from the administration of antipyrin, and its effects should be watched very closely until the drug is better known.

We will say for those who have conscientious scruples about it, that antipyrin is patented, although it cannot be considered a secret preparation. Whatever may be the strict construction of the code on this point, we are sure it will not deter any from making trial of a drug which promises so nearly to share the honors with quinine. Its employment certainly must relieve the demand for quinine partially, and materially affect the price of that drug. We acknowledge our indebtedness for most of our information on the subject to the *Therapeautic Gazette*, each number of which comes freighted with the best therapeutic knowledge of all countries, prepared with editorial skill of a superior quality, so as to make it available for the actively-engaged physician.

JALAP.—One of the editors of the *American Agriculturist* (Nov. 1885), presumably Dr. George Thurber, has discovered in his garden a Jalap plant. A drawing is given of the flowering specimen and also the roots. It is a beautiful specimen of the morning glory family (*Convolvulaceæ*), and can be raised in the open air in the South. Dr. Thurber suggests that "it has a remote agricultural interest to the Southern States, as one of the plants affording commercial products, the cultivation of which might prove profitable."

*Argemone Mexicana* (Prickly poppy, Mexican poppy) is also illustrated in the *American Agriculturist*, and its properties as a medicinal plant slightly alluded to: "The seeds contain an abundance of oil, but instead of being mild and eatable oil, as in the true poppy, it is acrid, and has the properties of castor oil, in very much smaller doses." Argemone is fast becoming troublesome in the streets of seacoast towns as a weed.

## OVARIOTOMY IN BATTEY'S INFIRMARY.

We are satisfied that a large number of our readers have no idea of the magnitude of this special work done by Dr. Robert Battey, of Rome, and a detailed description of it will, we are sure, be of interest to them.

While in Rome, some weeks since, we visited this infirmary, which is located on an elevation on South Street, overlooking the Etowah river. It consists of seven neat cottages of five rooms each, with beautiful grounds surrounding them. The place presents quite an attractive appearance. The furniture is plain, but neat. The bedsteads are brass, with woven wire mattresses.

Since January 1st, of this year, Dr. Battey has averaged one ovariotomy each week. These tumors, after being removed, are preserved in arsenic, stuffed and carefully put away. In the collection we noticed twenty of very large size, the largest one weighing, when removed, fifty-six pounds.

The success that has followed the removal of these large tumors has been something wonderful—not one of the cases having died. The doctor attributes this success, in a great measure, to the antiseptic precautions that he observes with every case.

The operation we witnessed was in a patient 32 years old. She had been remarkably stout and healthy up to September, 1884, when she noticed an enlargement of the abdomen. This continued to enlarge rapidly, and very soon she was treated for "dropsy," with drastic purgatives until her general health began to fail, without any diminution of the enlargement. Since December 1st she has not menstruated. She was admitted to the infirmary four days prior to the operation, and the only preparatory treatment given her was a compound cathartic pill, given two days previous to the operation and an enema of warm water given on the morning of the operation. She was not allowed any food the night previous to the operation or the morning of it. It will be seen that at the time of the operation the stomach was empty.

The patient was placed on a short table, with her feet resting in a chair, and was etherized with Squibb's ether by Dr. George R. West, one of the assistants.

The strictest antiseptic precautions were observed throughout.

From the time the patient was etherized and the abdomen exposed, until the operation was completed, a spray of carbolic acid 1 to 40 was kept constantly playing on her from a large steam atomizer.

The incision was made in the median line, with an ordinary scalpel, down to the sheath of the rectus muscle, when the remainder of the tissues down to the peritoneum were divided on a grooved director with scissors. When the peritoneum was reached, all cutting was suspended until the bleeding points had been secured by forceps, after which the peritoneal sac was opened and a trocar thrust into the tumor, when four and a half gallons of fluid almost as black as tar escaped. There were numerous adhesions to the abdominal walls which were broken up with the hand, after which the pedicle was ligated with a stout silk ligature and the tumor removed. It weighed 47 pounds. On account of the adhesions there was considerable oozing of blood into the peritoneal c avity This was arrested by packing the cavity with sponges, after which the cavity was thoroughly washed out with warm water and the wound closed with silk sutures. No drainage tube was used. The dressing consisted of a small piece of old linen spread with carbolic cerate placed over the wound, with a compress of uncarded cotton. Over this was placed an abdominal bandage of flannel, which completed the dressing. The entire operation, from the beginning until the patient was removed from the table, consumed one hour and five minutes.

The after-treatment, as we are informed by Dr. Battey, consists chiefly in doing nothing. He says that the only thing required is an occasional anodyne enema, and a great many do not require that. Dr. Battey is ably assisted in this work by his son, Dr. Henry H. Battey, Dr. George R. West, Mrs. Battey and his two students, Mr. Harry Huzza, of this city, and Mr. Glover. Mrs. Battey has entire charge of the nursing and general management of the patients after the operations, and, in our opinion, it is to her good nursing and kind and gentle treatment, more than to the strict antiseptic precautions, that the great success of the operations is due.—*Atlanta Medical and Surgical Journal.*

# CÆSAREAN SECTION.*

By R. O. Engraham, M.D., Montezuma, Ga.

H. T., aged 38, multipara, was taken in labor July 1, 1882, attended by midwife. After unsuccessful efforts to deliver, I was called on the morning of the 4th. I found the right hand of the child outside the external genitals; arm much bruised from traction. I was informed that the hand came down on the first day of labor.

Attempting to introduce my hand, it was met immediately in front of the os by a large, unyielding globose tumor. Was informed that patient's bowels and bladder had acted two hours previously.

She was considerably exhausted and contractions quite feeble. I attempted to push aside the tumor and return the presenting hand and perform version, but from the tumor impinging I was unable to do so. I decided, if possible, to amputate the arm, eviscerate and use Braun's cephalotribe. I called in consultation Dr. A. A. Watts, who assisted. After the patient was under the influence of an anesthetic (chloroform), Dr. Watts made an unsuccessful attempt to return the protruding hand. After the most thorough efforts to perform craniotomy without being successful, we debated the propriety of excision of the tumor, but after thorough examination as could be made with the arm of the child in the vagina, and the pressure of the super-imposed trunk and head, we decided that our patient would have a better chance for recovery from cæsarean section, in her exhausted condition, than from craniotomy and excision of tumor combined.

She was placed recumbent upon mattress, fully chloroformed; instruments, sponges, etc., were immersed in a two per cent. solution of carbolic acid.

An incision was made one inch below the umbilicus with a pointed bistoury. Index finger of left hand was introduced and guarded the point of the knife.

The incision was continued along the linea alba to within one and a half inches of the pubis, making an opening five and a half inches in length. The peritoneum was then lifted upon a tenaculum; an incision made large enough to admit index finger of left hand, which guarded point of knife. An incision was made corresponding nearly to one made in abdominal parietes.

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*Read by title at the Thirty-sixth Annual Session of the Medical Association of Georgia, April 15, 1885, at Savannah.

At this juncture an elastic cord was slipped around the cervix with uterine sound and single, lightly tied knot was made, which was tightened just at the extraction of child.

Reaching the uterus, an incision five inches long was made along the median line of the anterior walls. The incision was made so as to avoid the integrity of both the cervix and fundus. The child was found with head in left hypogastrium, face looking towards sacrum and right arm in vagina. Placed my right hand under the right armpit by reaching over its back, and grasped the left arm with my left hand and lifted it through the opening just made, delivering by vertex. The child was dead. It weighed eight and a half pounds. The loss of blood amounted to a little more than an ordinary labor.

Placing my hand in the uterine cavity, I explored for the offending tumor; found it in posterior walls of uterus, extending two or two and a half inches towards the fundus, and running down towards external os and jutting down against posterior walls of vagina, an inch below the os and about six and a half inches in circumference, evidently uterine fibroid. At this point of the operation the bedstead gave way, precipitating operator, assistant and all to the floor. Dr. Watts, who was administering the anesthetic, notified me that patient's pulse was growing weak. I turned out clots from uterus, sponged out uterine cavity with weak carbolized water, and no blood having escaped into abdominal cavity, I closed uterine incision with three deep and three superficial carbolized silk sutures. Three of the ligatures were placed one inch apart, passing through the uterine walls. The other three were placed, one alternately between the first and passed externally only half through uterine walls. The peritoneum was closed with four sutures. The abdominal incision was closed with eight carbolized silk sutures, and she was nearly half encircled with broad strips of adhesive plaster. She was cleansed, redressed and placed upon another bed. A dressing was applied upon soft linen of carbolized sweet oil, ʒ 2 to 8 ℥.

In an hour patient fully rallied from anesthetic. Morphia was administered, and in three hours left her resting comfortable.

Operation lasted forty-five minutes.

August 5.—Found patient had spent quiet night; pulse 110, temperature 99, with some abdominal fullness. There being some thirst and slight nausea, ordered water acidulated with citric acid, which gave temporary relief. Left morphia to meet any manifestation of pain. Incision seemed to be doing well. Prescribed quinine in anticipation of surgical fever.

August 6.—Considerable distention about abdomen with tympanitis; tongue coated dirty white, with some pain in left hypogastrium; pulse 115, temperature 99 1-2° F. No motion from bowels. Ordered castor oil and turpentine. Ordered carbolized dressing continued. Gave quinia gr. x, carb. ferri gr. 1. Doveri gr. v, every six hours.

August 7.—Suffering considerable; abdomen greatly distended; vomiting frequently, ejecting a dirty-looking fluid, filled with particles of sand; tongue dirty brown and dry; pulse 120, temperature 100° F. Bowels have not responded to oil; gave enema; in ten minutes enema returns, bringing away teaspoonful of sand and chalky white fluid. In thirty minutes repeated enema, but it returned as given. After many futile attempts with enemata, I oiled my finger and introduced it well up into the rectum. About three inches within the sphincter I was met by a mass pressing against the anterior wall of the rectum, which evidently was the uterine tumor previously encountered. By gentle rotary motion I passed the tumor, and half inch further my finger was met by what seemed to be impacted fæces of the consistency of partially dried glacier's putty, but it was beyond my reach. After various attempts to dislodge it, I introduced my hand (patient being chloroformed) into the rectum.

After introducing my hand cautiously, I was able to raise the uterine tumor, slip my fingers forward, and with much difficulty break up the mass. With my hand still in the rectum, with a Davidson syringe I directed a strong stream of tepid water against the mass. Withdrawing my hand, in a few minutes quite a quantity of the impacted mass came away, consisting in the main of chalky marl and sand, which patient told me she had ate before she was confined, as she remarked that she had an uncontrollable appetite for it.

Of this marl and sand there were gathered from her stools in all two and a half pounds. After she rallied from the anesthetic, administered hypodermic of morphia; prescribed beef, wine and iron, ordered quinia, gr. x, pulv. Doveri, gr. v, every six hours, and continued carbolized oil dressings.

August 8.—Patient comfortable, pulse 100, temperature 99° F., tongue moist, abdominal distention considerably diminished, cheerful, with some desire for food, prescription continued.

August 9.—Patient improving, abdominal distention disappeared, pulse 90, temperature 98 3-5, tongue moist and cleaning off, appetite fair. Ordered treatment continued, except Dovers to be discontinued, and morphia to be given as indication demands.

She continued to improve up to the 13th. Union in the abdominal wound was perfect, except a single suture nearest the umbilical extremity of the incision. At this time I found the pulse 110, temperature 100° F., tongue dry, skin hot and dry. Patient complained of a severe throbbing pain about the reunited part of incision. Parts looked red and swollen. Ordered quinia, gr. xx, Dovers gr. vii, every six hours.

August 14.—Pulse 120, temperature 101, skin hot and dry, restless with great pain of a burning, throbbing character about ununited part of incision. Parts looked red, felt hard, as if circumscribed infiltration had occurred one and a half inches external to left lip of incision, opposite ununited point. Prescription continued. Leadwater and laudanum applied to painful point.

August 15.—Somewhat worse, pulse 125, temperature 102, pain controlled only with anodyne. A well defined circumscribed hard lump one and a quarter inches to left of ununited point of incision. Treatment continued.

August 16.—Condition aggravated, pulse 128, temperature 102½. Introduced my finger through opening left in incision, explored to left, found a fluctuating tumor about the size of a billiard ball, which I punctured with a trocar through the abdominal wall from externally over center of tumor, when a discharge of two and a half ounces of unhealthy-looking pulse escaped. Introduced drainage tube in opening made with trocar. Prescribed quinia, iron and morphia.

August 18.—Much more comfortable, good night's rest, pulse 100, temperature 99½, treatment continued.

August 19.—Improving, pulse 95, temperature 98 3-5, treatment continued.

August 20.—She seems better in every respect, cheerful, says she will be up in a few days, drainage tube removed.

August 21.—Sat up in bed, ate breakfast, one hour later had severe chill, lasting about an hour, fever ensued with pulse 100, temperature 100½, some delirium, prescribed 30 gr. quinine, to be followed with gr. x every six hours, gave brandy cautiously.

August 22.—Mind clear, pulse 95, temperature 99½, quinia and opium.

August 23.—Pulse 110, temperature 101 3-5, with all the indications of sepsis. Prescribed quinia, tincture of iron, opium, brandy. She died on morning of the 24th, with convulsion, on twenty-fourth day after the operation.

I was permitted to examine the abdominal cavity enough to find that union had taken place completely in both the peritoneal and uterine incision with sutures in situ. No escape had taken place into abdominal cavity.

*Case* 2.—Although I denominate this case second, in reality it is case first, as the operation took place several years prior to the one just reported.

This case I will not take time to go into details, as it was substantially a similar operation, and is reported merely to furnish statistics of the operation.

Mrs. Eugenia R., age 25, primipara, was taken in labor September 18th, 1874. I was called at first signs of approaching labor.

On introducing my finger into vagina, I was quite astonished to find the pelvis fearfully contracted and distorted so badly that it was quite apparent that the head could never pass. Assisted by Drs. Roberts and Stubbs, we performed craniotomy and made every effort to deliver, but our efforts were entirely futile, and we were left no other alternative but hysterotomy, which I proceeded to perform, with their assistance, in the manner just described in previous operation, with no particular accident or variation, except a tendency of intestine to protrude from the opening, which was with difficulty controlled. Also, considerable hemorrhage took place and considerable blood entered the abdominal cavity, necessitating sponging out the cavity at the conclusion of the delivery.

The badly mutilated fetus was lifted by the feet through the opening from the uterine cavity, and the various incisions sutured, as in previously described operation, with all the antiseptic precautions at my command. Carbolized oil dressing and adhesive strips used as heretofore described.

The case made a good recovery, and she was living the last I knew of her, a few years ago.—*Atlanta Medical and Surgical Journal.*

# DIATHESES DUE TO CLIMATE.

I will commence first with diatheses in relation to *climate*. Under the term *malaria* we may include all the various emanations from marshy grounds, swamps and jungles. As to its exact nature we know nothing, but that, whilst similar in essential qualities, it varies in different localities, both in intensity and character, seems certain. Its effects upon the human constitution may be to produce quickly very severe disease, but, whether acute or otherwise, attacks of arterial spasm attended by visceral congestions are almost constant phenomena. Its effects, whether exposure be continued or otherwise, are always permanent. The man who has once had ague will display through life peculiar susceptibilities. Under all circumstances likely to cause shivering he will show especial tendency to rigor. He will shiver if a catheter be passed, or if he be exposed to cold, or if inflammation is initiated; and it becomes a matter of some practical importance to the operating surgeon to remember that rigors occurring to such patients are not so serious in their import as in others. They are retrospective symptoms, and reveal the fact that those to whom they occur have at some former period come under the influence of malaria. One attack of malarial fever by no means prevents another, and although subsequent attacks are usually less severe than the first, yet the effects of the poison are distinctly cumulative, and the limits within which acclimatization can secure immunity are probably much more narrow than has been supposed. It is easy to see that a poison which can be so persistent in its action and of which the effects, even in mild cases, are so well nigh permanent, must be capable of producing that state of body which we name diathesis. The malarial diathesis is, indeed, a well-marked one, and it exists in greater or less degree in all who have ever come under the influence of its cause. It is probably in some degree hereditary, the inheritance being, we may suppose, in ratio with the severity and length of duration of the disease in the parent. Inasmuch as the offspring of those who have suffered are usually born under conditions of continued exposure to its cause, it is difficult in them to discriminate between what is inherited and what is acquired. So great, however, is the combined influence of the two that a fearful state of physical degradation may be thus produced, and in this the inhabitants of a whole district may be involved. Nor is the physical health alone affected; the nervous system is especially involved, and the mental and moral faculties are largely influenced. When we remember how permanent in hereditary transmission such influences become, we can easily understand that the malarial diathesis has, in many instances, had a large share in controlling the destiny of a nation or damaging the character of a race. This diathesis can easily mix itself with any other, and in London practice we encounter it very frequently in association with that of syphilis, and occasionally both with it and that of alcoholism. *Hutchinson on Pedigree of Disease.*

# THE CHOICE OF METHODS IN ABDOMINAL DELIVERY.

Gastro-hysterotomy has been improved by the introduction of the uterine suture, and lives have been saved that must otherwise have been lost; but no change in the old operation can compensate for the delay and intermeddling so generally indulged in (where the knife is the only remedy that promises success), to the fatal termination of the case. In an instructive article in the October number of *The American Journal of the Medical Sciences* Dr. R. P. Harris shows that it is in vain to practise this operation in the United States unless it is done in good season. Since January 1, 1875, 29 out of 38 cases have ended fatally, and 21 children were extracted dead, leaving 17, of whom 4 soon perished from causes occurring before delivery, 28 were in labor from one day to two weeks, and 15 of them more than three days.

The Sänger modification with its simplifications has been performed 12 times, saving 6 women and 10 children, of which 5 cases belong to the credit of Dr. Leopold, of Dresden, who saved 4 women and 5 children. Of 8 German cases, 6 recovered. These women were in labor respectively 12 hours, 8, 30, "some hours," and 16 hours, and one not mentioned. The cases marked "favorable" by reason of their condition before the operation all recovered. A tabular record of cases is given by Dr. Harris.

Laparo-elytrotomy also numbers 12 cases, with 6 recoveries, and 7 children saved. Nine of the cases belong to New York City and Brooklyn, where 6 women and 5 children were saved. These 6 women were in labor, respectively, 11 hours, 4 days, 16 hours, a week, 8 hours and 22 hours. There were 4 "*favorable*" cases among the 12, all of which recovered. These two cities have a credit of 11 Cæsarean operations, saving but 2 women and 2 children. In 10 the prognosis was "*unfavorable*." In cases made more serious by delay, laparo-elytrotomy promises better than gastro-hysterotomy, and should be preferred to it. It also promises more favorably for British cases, as far as we can judge by New York, where the mortality was formerly equal to that of England. A table of the operation is given.

The Porro-Cæsarean operation Dr. Harris shows is *par excellence* the method for hospitals, where the women should be under anticipative treatment and operated upon very early in, or just prior to, labor. The Müller modification is preferable where the placenta is upon the anterior uterine wall, or the fœtus dead and putrid.

Dwarf subjects require that the delivery under the knife should be effected very early, as exhaustion occurs after a short effort of nature, and death is apt to result in such cases. The Porro operation has been the most successful in the cases of dwarfs.

HISTORY OF A CASE OF TWICE-PERFORMED CÆSAREAN SECTION, UNDER THE LATE PROF. WM. GIBSON; WITH AN AUTOPSY OF THE PATIENT MADE FIFTY YEARS AFTER THE FIRST OPERATION.—In the October number of *The American Journal of the Medical Sciences* Drs. Caleb W. Hornor and Robert P. Harris give the history of the famous case of twice-performed Cæsarean section, by the late Prof. Gibson, and an account of the autopsy made fifty years after the first operation. This case is not simply a curiosity of surgical experience. That she twice recovered is not so remarkable, when we consider that five other women in the United States have done the same thing. The danger in these cases is mainly after the first operation, except in those where the mother has fallen into bad health, as occurred in two instances in the United States. A third woman died after a third operation, from the same cause. The lesson to be learned from these recoveries under the first operation, and from others that have been operated upon once only, and with full success, is that it is all-important to give relief to the patient as early as possible.

# THE THERAPEUTIC USE OF IODOFORM COLLODION, ESPECIALLY IN NEURALGIAS.

Dr. William Browning, of Brooklyn, in the October number of *The American Journal of the Medical Sciences*, gives his experience with this remedy for external application, together with notes on the preparation itself, and a brief study of its action. The strength usually employed is 1 part of iodoform to 15 of collodion. A half ounce is usually sufficient for any ordinary single application. Dr. Browning has found it most effective when painted on in very thick layers, which may be conveniently done with the usual camel's-hair brush. As soon as one coating becomes a little firm ano her is applied, and so on until it appears to have an average thickness of ½ mm. In the neuralgic cases a cure, when effected, was usually accomplished with one or two applications.

The class of troubles found most amenable to this treatment was narrowly localized neuralgias, especially when corresponding to some particular nerve and not dependent on any demonstrable lesion. In fact, if a neuralgia, or what is thought to be one, proves intractable to this means, we should doubt its being a purely functional affection, and look carefully for some tangible cause. It has thus a certain diagnostic, as well as a therapeutic, value. Several times its complete or partial failure has led to a more searching and successful examination. Even in such cases much temporary relief is often afforded.

Supraorbital neuralgias, even of malarial origin, particularly if the miasmatic infection dates back some time, seem quite amenable to this treatment. Of course it is not recommended as a substitute for quinine here, but only as an adjuvant where the latter fails or acts too slowly.

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**Rhamnus barks** require age to rid them of disagreeable properties. When two or three years old, they retain only the purgative power. George W. Kennedy says (*Am. Jour. Pharmacy*, October) that the more active properties of Rhamnus reside in the resin, and that by analysis R. Purshiana yielded 6.3 per cent. of R. Catharticus was 4.1-6 per cent. There is a marked difference in the effects of specimens of the fluid extract of Rhamnus Purshiana, and the above hints may give a clue to the difference.

# NOTES.

It is remarkable that elderly persons afflicted with relapsing ague seldom have enlargement of the spleen.

Old and oxidized oil of turpentine is an antidote for phosphorus, according to Brunton. The American is as good as any. It may be rapidly oxidized by agitating a few ounces with a few drops of nitric acid.

Antipyrin is decomposed by spirits of nitrous ether (Dr. Eccles, *N. Y. Med. Journal*) converting it into green aniline. This change is thought to be not undesirable. The change takes place only after some hour's standing.

A New Test to Discover the Presence of Blood in the Urine.—About 3 drachms of urine acidulated with a drop of acetic acid, are agitated while cold with 50 minims of chloroform. When allowed to stand the chloroform will rise to the top, and will be colored more or less intensely, according to the quantity of blood present.—*Medical News.*

The Supervision of Vaccine Stables.—The *Medical Record* takes up a suggestion originally made by Dr. Henry A. Martin, to obtain official sup rvision and inspection of vaccine stables to prevent the improper propagation and issue of vaccine. We do not believe that such inspection and supervision is practicable, and the best that can be done is for each State Board of Health to send its own inspector and determine which establishments are worthy of confidence, and recommend and use their products.

Notes on Alkaloids of Coca Leaves is the title of a valuable paper by A. B. Lyons, M.D., in the October *American Journal of Pharmacy.* Accompanying the article is a colored illustration of the plant (*Erythroxylon Coca, Lam.*), which is from Bentley & Trimen's work on "Medical Plants," but this illustration is rather inferior, and does not show the peculiar linear marking on the leaves, which is of more interest and use to the druggist than the drawing of the flower. The wood-cut illustration of the microscopy of the alkaloid and its salts evaporated from various solutions is very instructive, and the entire paper is of great value.

WANTED—To complete file, copies of the "Transactions of the Medical Society of the State of North Carolina" for the following years: 1849, 1851 (two copies), 1854, 1856, 1868 and 1882. Also "Transactions of the Medical Convention" called to organize the above Society. We will exchange for the above numbers "Materia Medica and Therapeutics: an Introduction to the Rational Treatment of Disease. By J. Mitchell Bruce, M.A., Aberd., M.D."; or "Indigestion, Biliousness and Gout in its Protean Aspects. By J. Milner Fothergill, M.D."; or will pay cash for them. Address Thomas F. Wood, M.D., Wilmington, N. C.

IT TAKES DIRECT FUMES OF PHOSPHORUS TO CAUSE CARIES OF THE JAW.—In men exposed to the fumes of phosphorus, e. g., those employed in the manufacture of lucifer-matches, caries of the lower jaw is a frequent occurrence. This is not due to the action of the phosphorus after absorption into the circulation, but to the direct effect of the fumes upon the bone itself. For it has been found that when a bone of an animal fed by phosphorus was exposed, no carious change took place; but if one were exposed to the fumes, caries was produced, and amongst lucifer-match makers it has been noticed that only those who have carious teeth suffer from necrosis of the jaw.—*Brunton's Therapeutics.*

WE REGRET IT EXCEEDINGLY.—In our issue of September we gave a lengthy abstract of a valuable paper which we found in the *New Orleans Medical and Surgical Journal*, and we were greatly vexed when we discovered (after our attention was called to it by the editors of the *New Orleans Medical and Surgical Journal*) that we had inadvertently omitted to give the source of the paper we abstracted. We desire thus publicly to acknowledge the error, and at the same time to say that we always read with great interest the pages of our esteemed and venerable contemporary, and we do not hesitate to accord that Journal the very highest place in Southern journalism. The article by Dr. Matas was highly esteemed by our readers, and we received several letters of commendation and of enquiry awakened by it.

THE disease known as Pear Blight has been communicated to pear trees by means of bacteria (*Micrococcus amylovorus*). The bacteria were obtained free from the juice of the fruit, and Mr. J.

C. Arthur, who read a paper on this subject before the recent meeting of the *American Association for the Advancement of Science*, says that the bacteria when fully isolated will produce the disease, while the juices in which they live will not. We mention this fact as one important conclusion in bacteriology because of the immense help all such demonstrations will serve in studying the more complex human fluids. Now that the study of mycology has been taken up in earnest by botanists, and enlarged culture experiments will be possible in the laboratories for physiological investigation now in prospect of erection.

MICHIGAN BOARD OF HEALTH AND THE PREVENTION OF SMALL-POX.—The Michigan Board maintained successfully an Inspection Service to prevent the admission of small-pox into that State. In accordance with an order from the United States Treasury Department, approved by the President, establishing a corps of inspectors, under the Marine Hospital Service, the Michigan Board suspended its work. In discharging the inspectors, Dr. Baker, the Secretary, says: "Permit me to thank you for your efficiency. During your service no small-pox has entered Michigan, so far as known; but it has been reported to have been conveyed from Montreal, by person or otherwise, to Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, Illinois and Wisconsin. The most exposed of any State, Michigan, has so far escaped." Well done for the Michigan Board of Health! It must be conceded that its organization is more complete, and its execution more thorough, than that of any State having a board of health.

CASES OF SPECIMENS OF MATERIA MEDICA FOR STUDENTS.—Messrs. Parke Davis & Co. have prepared a convenient case containing 388 articles of the vegetable materia medica for the use of medical and pharmacal students. The outfit is sold at the low price of $10, and we commend it to the attention of students, and also suggest it to the Examiner in Materia Medica of the State Board of Examiners as a test in his examinations. The length of the case is 23, width 16, depth 13½ inches. *The Uses of Cocaine.*—Decidedly there is a future for cocaine. It is destined to have a permanent place in medicine, surgery and dentistry. The scope of its uses is not yet defined, but it is safe to say that its applications are widening as experiments with it are extended. We have been especially impressed with this fact in looking over the literature of the subject recently issued by the house of Parke, Davis & Co., Detroit. They have published several most interesting pamphlets. One is entitled "Cocaine in Dental Surgery," another is a working bulletin on the drug containing a variety of original material, and a third a well composed collation of what has been reported about it in home and foreign medical literature. These pamphlets will be sent without charge by the house to any one mentioning the name of this journal, and they are worth reading by all. The same firm has devised a very handy and ingenious "cocaine case," which they sell at a moderate price, and which impresses us as the best of the kind we have seen.—*Philadelphia Medical and Surgical Reporter.*

Hodgson on Paraldehyde as a Hypnotic.—In the *Philadelphia Medical Journal,* July, 1885, p. 99, Mr. G. F. Hodgson contributes his experience after using paraldehyde as a hypnotic in a large number of cases, consuming two quarts of the drug. The author states that the sleep produced by this medicine is calm, closely resembling that of health, with no unpleasant premonitory after-effect, and its action is prompt. It is most appropriate in cases of mania, hypochordriasis, delirium tremens and migraine, as well as in the multifarious minor diseases in which insomnia prevails. Its great advantage over chloral is, that it does not have a depressing influence upon the heart. The insomnia of gout, whether acute or chronic, is most advantageously treated by paraldehyde, as it helps to maintain the excretion of urine well charged with its normal solid constituents. In cases of irritable or inflamed states of the throat or stomach, it cannot be prescribed, on account of its acridity, and, indeed, in any case it must be given well diluted. The following formula is recommended: ℞. Pulv. tragacath comp. Fj; syrup aurant. ʒ j; paraldehyd. ʒ i; spirit chloroform ♏ xv; aquam ad ℥ iii. In mild cases one such dose at bed-time is sufficient, but in severe cases this must be repeated in an hour or so. By combination with morphia or with bromides, the soporific effects of both medicines seem enhanced.—*London Record, Oct* 1885.

Antipyrin.—We will add the following from the *London Medical Record,* to the article to be found elsewhere under the above heading in this issue: "In a preliminary note in the *Vratch,* No. 30, 1885, p. 489, Dr. P. A. Walter publishes the outcome on his observations (on several febrile patients at Prof. V. A. Manasseïn's Clinic) undertaken in order to answer the question, "Does, or does not, antipyrin fulfil the conditions which are essential for every really useful antipyretic remedy? that is, does it, or does it not, diminish the process of decomposition of tissues or the production of heat, without any interference with assimilation of the food, and without any harmful action on the heart, brain, etc.?" The patients (with pleuro-pneumonia, bacillar phthisis, typhus fever, pleuritic exudation) experimented upon received for six days only milk, cranberry juice with water, and common water. For the first three days of the observation no antipyrin was given; for the next three days the drug was given in such doses as to constantly keep the temperature at an apyretic level, the purpose being attained by daily doses varying from 45 to 120 grains. The milk and urine were analyzed after Kjeldahl-Bordin's method [whatever that may be]. The results as given by Dr. Walter are these: 1. Antipyrin is an excellent and sure antifebrile remedy, free from any unpleasant accessory action. 2. While lowering the febrile temperature antipyrin also lowers the nitrogenous metamorphosis of tissues, without producing any injurious effects (such as enfeeblement of the cardiac action, action on the brain, etc.). 3. In the majority of cases the assimilation of nitrogenous substances of the food undergoes improvement under the influence of antipyrin. The author notes also that antipyrin sometimes exercises a favorable influence on diarrhœa.

THE PREDISPOSING CAUSES OF ANEURISM.—In a valuable paper, which appears in *The American Journal of the Medical Sciences* for October, Surgeon General Hamilton presents an elaborate study of the predisposing causes of aneurism. As far as his inquiry has extended, the only constant element among all the alleged causes of aneurism is that of climate. Neither syphilis nor alcoholism, nor occupation, nor heat alone, appear to have an appreciable influence on the causation of this disease. How far the influence of diet may extend in the production of aneurism he has been unable to form any conclusion, but it is possible certain kinds of food may have a powerful influence.

# DAVIDSON COUNTY BOARD OF HEALTH—REPORT OF THE MEETING OF ORGANIZATION.

Pursuant to notice given, the Board of Health of Davidson county met in the Court House in Lexington at 10 o'clock P. M. on the 2d day of November, 1885, and was called to order by S. S. Jones, Chairman of County Commissioners. Members of the Board present, S. S. Jones, Chairman County Commissioners; S. E. Williams, Mayor; Dr. R. L. Payne, Sr.; Dr. Joe Hill, Dr. J. F. Beall, Dr. R. L. Payne, Jr.

It was moved and carried that Dr. R. L. Payne, Sr., be made temporary chairman of the Board and Dr. J. F. Beall Secretary.

The temporary organization was, on motion, made permanent.

On motion of S. E. Williams, it was decided to elect a Superintendent of Health to act two years from January 1st, 1886, and that the present officer act until that time. Dr. R. L. Payne, Jr., was elected Superintendent of Health.

The Board, on motion, adjourned to meet at the call of the Chairman. J. F. Beall, Secretary.

# NOTICE TO OCULISTS AND PUBLISHERS ON OCULISTIC MATTERS.

Having taken charge of reporting for the *Revue Générale d' Ophthalmologie*, edited by Dr. E. Meyer, of Paris, and Dr. Dor, of Lyon, on the progress of Ophthalmology in our country, I beg leave to request all authors and publishers of ophthalmic works and papers to send me copies or reprints of their respective publications, in order to enable me to give the most complete review of the current ophthalmic literature of our country in a periodical of the largest circulation among our profession.

Medical papers please copy. Dr. M. Landesberg.

40 W. 34th Street, New York.

## LEPROSY A FOURTH STAGE OF SYPHILIS—INOCULATION OF LEPERS WITH SYPHILITIC VIRUS.

Suffice it to say that I fully believe leprosy to be a fourth stage of syphilis, or a form of scrofula subsequent to syphilis, occurring but rarely except in a virgin race, or contracted from a member of such race; and then only in persons of a broken-down or cachectic, nervous constitution, and rarely met with among Anglo-Saxon or Celtic races, except in blondes. On November 14th, 1883, I inoculated six lepers with the virus of syphilis, by taking six ivory vaccine points, and scraping off the surface of a mucous patch on the under side of the lower lip of a native woman. The points were then allowed to dry, and in three hours after I transferred the virus to the arms of six leper girls, under twelve years of age. December 14th, following, I repeated the experiment, taking the virus from a hard chancre on the penis of a Portuguese who came to my office. I saw this same man in March, 1884, three months later, in the office of a brother physician, and found he was suffering severely from secondary syphilis.

The last time I used fourteen points and inoculated fourteen lepers therefrom; but no result followed in any of the twenty experiments. I should like to hear of others trying experiments in this direction, and the results. I understand that there are a number of lepers in the small-pox hospital at San Francisco, upon whom this could be tried. This idea was first suggested to me by Dr. E. Pontoppidan, of Copenhagen, Denmark.—*Extract from an article on Leprosy by George L. Fitch, M.D., in Pacific Medical and Surgical Journal and Lancet.*

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The statistics of an eastern inebriate asylum for women show that out of 204 inmates, 128 began by drinking beer, 37 with whiskey, 20 with wine, and 8 with gin. These figures are truly convincing, but had the statistician gone back still further, he would have found that the whole number of the inmates began by drinking milk. The moral is obvious: Great is the value of statistics.—*Medical Age.*

## AMERICAN PUBLIC HEALTH ASSOCIATION.

The 13th Annual meeting of the American Public Health Association will meet in Washington, at Willard's Hotel, Dec. 8th to 11th.

The topics for consideration will be:

I. The best form in which the results of Registration of Diseases and Deaths can be given to the Public, in Weekly, Monthly and Annual Reports.

II. The Proper Organization of Health Boards and Local Sanitary Service.

III. Recent Sanitary Experiences in Connection with the Expulsion and Suppression of Epidemic Disease.

The Lomb Prizes will be awarded as follows:

I. Healthy Homes and Foods for the Working Classes. First prize $500; second prize $200.

II. The Sanitary Conditions and Necessities of School Houses and School-Life. First prize $500; second prize $200.

III. Disinfection and Individual Prophylaxis against Infectious Diseases. First prize $500; second prize $200.

IV. The Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding them. First prize $500; second prize $200.

These meetings are well attended, and this Association is hardly without exception, the best working scientific body in the country. It would be gratifying to see this meeting well attended by representatives from North Carolina and the South generally.

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## BOOKS AND PAMPHLETS RECEIVED.

First Annual Report of the New York Cancer Hospital, 1885.

Inflammation of the Iris, with report of cases. By Martin F. Coomes, M.D.

Rationalism in Medical Treatment, or The Restoration of Chemism, the System of the Future. By William Thornton. Boston.

A Memoir of Charles Hilton Fagge, M.D. P. Blakiston, Son & Co. Philadelphia, Pa.

A Description of the Improved Sonometer-Opium Eating. By Martin F. Coomes, M.D.

Alienist and Neuralogist Editorials. By C. H. Hughes, M.D., editor. Abstracted from July number, 1885.

Medical Education. A Paper read before the Philadelphia County Medical Society. By Henry Leffmann, M.D., D.D.S.

A New Bandage for Fixation of the Humerous and Shoulder-Girdle. By Charles W. Dulles, M.D. *Medical News* reprint.

The External Therapeutics of Pulmonary Consumption. By Thos. J. Mayo, M.D. Reprint from the *Medical News* August 22, 1885.

Vaginal Hysterectomy for Cancer. By A. Reeves Jackson, A.M., M.D. Reprint from the *Journal of the American Medical Association*, August 15, 1885.

A Case of Double Narcotic Addiction—Opium and Alcohol. Imbecility. Recovery. By J. B. Mattison, M.D. Brooklyn, N. Y. Reprint from *Canada Lancet.*

The Prevention of Opium Addiction, with Special Reference to the Value of Galvanism for Relief of Neuralgic Pain. By J. B. Mattison, M.D. Brooklyn, N. Y.

Tabular Statistics of One Hundred Cases of Urethral Stricture Treated by Electrolysis, without Relapse. By Robert Newman, M.D. Reprint from *New England Medical Monthly.* Bridgeport, Conn.

A Plea for the Medicinal Use of Pure Alcohol and Alcoholic Mixtures of Known Composition, in Preference to Ordinary Fermented Liquids. By Henry Leffmann, M.D. Reprint from *Polyclinic*, July, 1885.

Duty of the State toward the Medical Profession. An Address delivered before the Medical Alumni Association of the University of Michigan. By Conrad George, M.D. Reprint from the *Physician and Surgeon.*

# READING NOTICES.

With a just appreciation of the tendency to general depression in values, and with a laudable desire to place what is a necessity to the outfit of many physicians within the reach of all, the proprietors of Mellier's Standard Elliott Patent Saddle-Bags and Buggy-Cases have made a large reduction in prices of these articles, as can be seen by referring to their advertisement in this Journal.

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Mr. Chamberlain :—Dear Sir :—Your patent Water Closet Seat has been used in my family for several months, and has given entire satisfaction. Yours, respectfully, W. S. Clark.

Tarboro, N. C., December 13, 1884.

——(o)——

Noah, Coffee Co., Tennessee, Aug. 10, 1885.

I had a case of Menorrhagia of long standing, that had tried almost every known remedy at the hands of several good physicians, without receiving more than very temporary relief. Patient aged 40, very delicate, nervous temperament, subject to paroxysms of neuralgia all over, but more particularly of the head, face and lower extremities. Has suffered with menorrhagia for 20 years. I have prescribed for her for the last six years. Ten weeks ago I put her on "Aletris Cordial," three teaspoonfuls per day for the week preceding and the week of the flow, with "Fellows' Syrup," all the time with apperient Pills, as often as necessary, and I am happy to say that the above treatment has given better satisfaction than any or all others ever did, which is largely due to "Aletris Cordial," the others having been used alone before.

Yours truly,
J. E. Childness, M.D.

# NORTH CAROLINA MEDICAL JOURNAL.

**THOMAS F. WOOD, M. D., Editor.**

**Number 6. Wilmington, December, 1885. Vol. 16.**

## SELECTED PAPERS.

### MODERN METHODS OF TREATMENT OF PULMONARY PHTHISIS—BEING A CLINICAL LECTURE DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, OCTOBER 27, 1885.

By Beverley Robinson, M.D., Clinical Professor of Medicine.

Gentlemen:—The subject of my lecture before you to-day is to me a most interesting one. It is especially attractive because I believe by the general adoption among practitioners of medicine of the means to be referred to, a positive and great benefit may be afforded to a vast number of individuals who are now sufferers from an otherwise almost hopeless disease. Let me say to you at the beginning of my remarks, so as to avoid any possible misapprehension, that I am of the opinion at the present time, just as much as ever before, that all usual means of treatment in pulmonary phthisis which have been proved to be practically useful are none the less advantageous because something newer and further can be added. By all means advise your phthisical patients to observe strictly well-determined hygienic rules, to breathe, habitually, if possible, a high, dry, pure, equable atmosphere; give them cod-liver oil, as much as they can properly digest and assimilate;

let all undue mental and physical fatigue be eliminated, if it may be, from their daily existence; locate them in large, sunny, well-ventilated apartments; see to it that their food and drink are nutritious and suitable—in short, do whatever you can to retard the march of disease in the lungs, or to promote and obtain absolute cure. Admitted, then that this plain duty is set before us; admitted that what our classical, text-books teach is sound doctrine and should be unerringly followed, still may we not go beyond their teachings and try new methods which reason encourages and clinical observation and experience obviously support?

The answer is evident. The three methods, then, to which I call your attention, taken in the rank of what I believe to be their relative importance, are:

1. Increased alimentation.
2. Continuous antiseptic inhalations.
3. Intra-pulmonary injections.

One of the symptoms most to be dreaded in the course of pulmonary phthisis is anorexia. When this condition is insurmountable, the patient's future is well-nigh hopeless. Food must be taken so as to preserve life. But at times the repugnance to food is so great among phthisical patients that they turn from it in sheer disgust. No matter how temptingly the dish is prepared, there still remains the inability to swallow it. Now, then, how can the appetite be awakened, especially when its complete absence is already feared at an early stage of pulmonary phthisis? Of course, we may and should first try the different vegetable bitters, combined, or not, with an acid or an alkali; but if these fail, and very often they will, despite our best-directed endeavor, what then shall we do?

Under these circumstances, and in view of what my reading and personal experience show me, I now recommend washing out the stomach by means of a soft-rubber tube connected with a funnel. After a very short period—sometimes within a few days from the time daily washing is begun—the patient will gladly say that his appetite is already much improved. Take another instance—that, for example, of a patient whose appetite is not good, it is true, but who, nevertheless, forces himself to eat, and who, within a few minutes or hours after food is taken voluntarily, vomits it up. How are such patients to be treated? As I have said in regard to my first example, by washing out the stomach daily until stomachal tolerance is, at least, acquired for easily assimilable food. Further, there is a class of cases in which the anorexia is only moderate and the power of digestion for food not completely lost. Of course, it is an effort to eat, and there is certainly no desire for food. Besides, soon after food is swallowed the patient suffers from weight or pain in the stomach, acid eructations, or extreme flatulence, which are about equally unpleasant and render the patient unwilling to eat unless forced to do so by his own convictions or the urgent appeals of friends. Manifestly in these instances the patients do not take sufficient food, or do not assimilate it well enough to hold their own, far less to repair the daily damages that are effected by the wasting disease of which they are victims. Here again I counsel daily washing of the stomach. In the beginning I do not advise so-called forced feeding by means of the soft-rubber tube. I believe it is wiser in many instances to wait some days before commencing alimentation in this manner; still there are exceptions. In certain cases, even after repeated washing of the stomach, the patient will be unable to retain food after swallowing it. He may feel that he needs food, and he may be perfectly willing to take it, and yet every time he attempts to swallow even a few mouthfuls, the food is almost immediately rejected by an effort of retching or vomiting.

Singular to say, the mere act of swallowing appears sometimes to occasion the subsequent feeling of nausea and vomiting. If we introduce food into the stomach with the stomach-tube, even in tolerably large quantities, the food is retained. And not only is it retained, but it is digested and assimilated, and the patient soon feels better and stronger. And with the repeated administration of food in this manner the appetite returns by degrees and in a relatively short time, and the stomachal digestion continues daily to improve. After the lapse of several weeks, a month or two, or perhaps longer, daily washings of the stomach are no longer necessary. These may be repeated at longer intervals, finally to be stopped altogether. In regard to the forced feeding it is somewhat different. The rule is to super-aliment if possible—to give the patient more than he can possibly crave or desire, to make him digest and assimilate more food than he would be willing to, or indeed could, swallow. Now, this may be accomplished by pouring into his stomach once, twice, or even three times a day milk; milk and eggs; milk, eggs and beef peptonoids, in smaller or larger quantity. The main indication is, after all, to *stuff* the patient to his or her utmost capacity, short of causing actual distress or incompetence on the part of the digestive organs. It is, again, a remarkable fact that, within an hour or two after the time when a pint or more of milk, two or three eggs, half to an ounce of beef peptonoids have been poured into the stomach of a phthisical patient, he or she will have quite as good appetite as, if not better than, there would have been if no nutriment had been taken. When this forced alimentation, together with the regular daily meals, has been continued for some days, the patient's weight will commence slowly to increase. And, so far as his general condition is concerned, it will be manifestly improved. While this is true, and although flesh and muscular vigor are both obviously on the increase the intra-pulmonary condition will remain absolutely stationary. It may also progress slowly or rapidly. It may, fortunately, become retrogressive and markedly improved. An instance of the former kind was fully reported by me last June at a meeting of the American Laryngological Association, and I do not wish at the present time to repeat this history. I have not been able to bring before you to-day a case of pulmonary phthisis in which washing the stomach and forced alimentation are being carried out, although I have two such cases (in women) under my care *now* at St. Luke's Hospital. In place of *cases of phthisis* being thus treated, and in order to show you the ease and effectiveness of the plan of forced alimentation, allow me to present to you this man. The patient, J. P., is forty years old, single, and a cigar-maker. He has suffered for a long while from asthma, that followed a bronchial attack which occurred during the war of the rebellion. He has had dyspepsia during three years, which has frequently been accompanied by vomiting of very offensive liquids. Occasionally he has felt much depressed, and even ill, from the repetition and severity of these paroxysms. All the food he ate lay like a dead weight on his stomach, or gave him intense pain. His power of digestion seemed completely gone, and he suffered continued misery unless he recurred almost daily to the use of purgative pills. In this case the stomach-tube was first used on October 22, 1885, and the stomach washed out thoroughly with warm water slightly alkalinized by means of borax. After the first washing twenty-two ounces of milk were poured into the stomach and easily retained. The operation of washing and feeding with the tube has been repeated twice since until to day (October 27th), and to the milk two or three eggs have been added. Already the patient affirms, as you hear, that he has now no pain in his stomach after eating, that food does not lie as a load in his epigastrium, and his appetite has improved. Yesterday he ate and digested some meat without difficulty, which is the first experience of this kind he has had during several months.

Now, then, what this man states I have heard repeatedly before, and had several like cases under my care at different times. For your benefit I will now show you how easily my patient swallows his tube, how easily his stomach is washed out, and how acceptable milk received into his stomach through the tube appears to be. A word or two before I leave this subject in regard 1. To the apparatus employed. 2. To the best manner of using it. Simple instruments are often the best, and so it is in this instance. The instrument I show you is, in my opinion, the best one for combined washing and feeding with which I am acquainted. There are several others, invented or modified by different physicians, each one having its special advantage, perhaps, but each somewhat complicated ; at all events, none quite so simple as the one here shown, which to all intents is little more than a long rubber flexible tube with a vulcanite funnel at one end. To be more particular, I would add that the stomach-tube is similar, except for *increased caliber* and *length*, to those made by Tiemann or Ford for catheterization of the urethra. This one is twenty-eight inches long and about one-third of an inch in diameter. It is connected at its proximal extremity by means of two inches of *glass* tubing with a soft rubber tubing of similar size five feet in length. This latter piece of tubing is terminated by a funnel. The stomach-tube may be dipped into warm water before passing it in order to lubricate its surface, or make its passage easier. It is then introduced in the median line beyond the base of the tongue, and the patient is told to swallow. At each repeated effort of deglutition the catheter is pushed farther on until from eighteen to twenty-one inches are introduced. We are then quite sure the tube has penetrated into the stomach beyond the "eyes" by which the food pours into the stomach. So soon as this is accomplished, we raise the funnel to a suitable height—usually the level of the patient's head is sufficient—and pour into it slowly water of about blood-heat, or a little warmer, with the addition of borax. The proportion of the latter may be one drachm to two quarts of water. When we have poured about a pint of fluid into the stomach, or when the patient himself makes *a sign*, or says that his stomach feels distended, we quickly lower the funnel near the floor while *pinching* the soft tube near the funnel with the index-finger and thumb of the right hand so as to retain fluid in the entire length of the tube. So soon as the funnel is lowered into an empty receiving-vessel on the ground, pressure on the tube is relaxed and the water containing the washings from the stomach is siphoned off. After repeated washings, or until the stomach is quite clean and the water comes away clear, we pour in the alimentary substances in the same manner we did the hot water for washing. In withdrawing the stomach-tube we should do it quite rapidly, in order to avoid, possible rejection of the food. We should also pinch the tube near its proximal extremity in withdrawing it, so that none of its contents will fall upon the carpet or floor. Of course it is understood that the daily *washing* of the *stomach* should take place in the early morning, or at a time when it is comparatively or entirely free from food ; otherwise the tube is liable to be choked up by bits of undigested food. Besides, such pieces may be rejected alongside the tube, and possibly become impacted in the larynx or trachea, causing symptoms of asphyxia. Whenever it is inconvenient to perform the washing at a very early hour in the morning, the patient may be allowed some peptonized milk, and the washing may then be delayed for an hour or two. After a certain number of washings the patient himself may be able to accomplish this little feat quite as well as the doctor. As regards the *mere* passage of the tube, he frequently learns how to introduce it with greater ease to himself than the physician can command, and, while introducing the tube, is perfectly able to make a passing intelligible remark or two.

We now come to the second part of our lecture, viz: the subject of *Continuous Antiseptic Inhalations.* This, gentlemen, has been a subject which I have studied very attentively during the past two years. I have examined many different kinds of oro-nasal inhalers, but I know of none so simple, so cheap and so effective as the one I have in my hand. These inhalers were originally made in London and sold by Squire. I imported a large number of them for use at the New York Hospital in the out-patient department, and, within a brief period, finding them so useful, I have requested Mr. Ford, of Caswell, Hazard & Co., to manufacture a lot for sale to the public generally. The inhaler itself is nothing but a simple sheet of light zinc perforated with numerous small holes and bent into a somewhat pyramidal shape of suitable size to cover the nose and mouth. The apex of the pyramid—which is the part of the inhaler farthest separated from the mouth and nares—contains a small sponge, held in place by thread, upon which the inhalant is poured. The inhaler is held fixed before the nose and mouth by two light elastics which go around the ears. I have employed at different times a large number of inhaling fluids and many different combinations. The fluid and combination to which I now give the preference is creasote and alcohol, equal parts, to which I also frequently add a like proportion of spirits of chloroform. This combination is certainly very useful in allaying cough and modifying the quantity and quality of the sputa in pulmonary phthisis. I therefore recommend it very warmly. The alcohol is added to the creasote for the double purpose of diluting it and making it more volatile; the spirits of chloroform are added, in view of the experience of Dr. Cohen, of Philadelphia, to diminish local irritation and excessive cough. The inhaler must not be worn too long at first, nor should too much fluid be poured on the sponge at any single time. In either event, instead of giving relief, disturbance is caused; the throat is rendered more irritable, and the patient complains of increased soreness and tightness in the chest. Properly and judiciously employed, the creasote inhalant relieves symptoms notably, and in the beginning, at least, of pulmonary phthisis is, I believe, a means of decided utility so far as the possible arrest of the disease is concerned. It is important that beechwood creasote be employed. At first the inhaler should be worn ten to fifteen minutes every two or three hours; afterward it may be worn half an hour or an hour at a time, or even longer. When the length of time is gradually increased, only positive benefit will result. From ten to twenty drops of fluid should be added to the sponge at any one time. If more is added it will cause undue irritation. The fluid should not be poured on the sponge more than two or three times in twenty-four hours. Precisely the way in which creasote is most useful is perhaps difficult to state. By its antiseptic action it is possibly destructive of bacilli; by its local action and general effect it is certainly of value in combating catarrhal conditions. Where purulent cavities exist it tends to destroy or neutralize putridity. These are certainly sufficiently good reasons for its use without pursuing the inquiry further. At all events, these inhalations do good. The physician notices it and the patient affirms it. In many instances they allay cough better than any cough-mixture, and they are certainly free from the great objection of destroying appetite, as opium and morphine so frequently do.

We now come to the third and last topic of to-day's lecture, and that is, *The Utility of Intra-pulmonary Injections in Pulmonary Phthisis.* I for one, gentlemen, believe they do good. I also believe they rarely do any harm. They may occasion localized pleuritis, slight hæmoptysis, or cutaneous emphysema—but that is about all. They certainly allay cough, diminish the quantity and change the character of the sputa, and, in some remarkable manner, have at times manifest power in lessening the distressing symptom *dyspnœa.* This method of treating lung-cavities was first employed in this country by Professor Pepper in 1874; since that time, and except by Dr. Pepper himself, I am not aware that anyone but myself has practised these injections any considerable number of times. I have now made between forty and fifty intra-pulmonary injections, and am disposed to continue them in favorable cases. Of course it is often a difficult thing to follow up any particular line of treatment in private or hospital practice, on account of the prejudices or fears of patients. Thus it is with intra-pulmonary injections, and in a similar degree, perhaps, with forced alimentation, already fully described. Whenever this little operation can be performed, it is, in reality, a very simple matter.

The point of a fine cannulated needle should be inserted in the first, second or third intercostal spaces anteriorly, or in the axillary region. While there is no risk in making injections upon or outside of a vertical line passing through the nipple on either side, there is danger in injecting at any measurable distance within this line for fear lest we penetrate the pericardium, or one of the great thoracic vessels. The needle should be inserted from two and a half to three inches. Of course, if considered necessary, the slight pain of the puncture may be annulled by the use of local anæsthesia. I have made use of iodine usually in my injections, and am now employing a solution of the compound tincture of the strength of one part to four parts of distilled water. From ten to twenty mimims may be injected upon each occasion, and the injection may be advantageously repeated in four or five days. Previous to the introduction of the needle of the Pravaz syringe the patient fully expands his lungs, and retains the air in them during the few moments it takes to make the injection. Slight or moderate cough, some expectoration, streaked or not with blood, may follow the injection, and for a day or two there may be slight localized pain in the region where the injection was made. Further than these symptoms, little or no reaction accompanies or follows the injections. In many cases, as in that of the man whose chest I have just injected for the *third* time within ten days, there is no reaction whatsoever at the time of the injection, inasmuch as he does not even cough. I have told you this patient has a cavity at the right apex.

One of the gentlemen wishes to know how I am assured that the point of my needle has penetrated the cavity. The answer is very simple; by giving a slight movement in different directions to the body of the syringe we can readily appreciate whether or not the point of the needle encounters any resistance, or is perfectly movable in an empty space, or one only partially filled with semi-fluid material. But, presuming for a moment that I cannot be always confident that I have struck the cavity, does it matter? Practically, and according to me, no. That is to say, if you fear any bad results simply because the injection has been made into solidified tissue about the cavity. Indeed, I am more and more convinced that the best indication for these injections is in cases where the apices are *solidified* and not *softened.* I am borne out in this belief by my own experience. I have already injected in nearly as many cases of phthisical infiltration at its first stage as at a later period, and I have ordinarily seen apparent benefit result. As to the slight accidents that do occur, they can be easily allayed by an anodyne, external irritation of the chest, or rest in bed for a day or two. Of course, when we inject a cavity we have distinct objects in view, and, if we do not reach the cavity, we fall short of doing what we purposed to do. These objects are mainly to disinfect the sputa and to modify the walls of the cavity so that it will, little by little, tend to close up and cicatrize, and, in producing this result, we shall also expect the amount and character of the secretions from the lung-cavity to be sensibly changed for the better. When we inject solidified lung-tissue, we expect something very different. If there is an underlying inflammatory cause in very many cases of phthisis, and I still believe there is, we shall modify this inflammatory exudation considerably. We shall, perhaps, produce such changes in it as to render it fluid and easier of resorption or expectoration. As to the influence of iodine or other injections on the growth or vitality of bacilli, I have yet no very positive and determined views—any more, indeed, at this moment, than I feel perfectly sure in regard to the real, active rôle of the bacillus itself. Only a few months ago the chorus of the supporters of Koch was somewhat after this fashion :

> " What is consumption ? The bacillus.
> What is the bacillus ? Consumption.
> But what causes consumption ? Why, the bacillus.
> But what causes the bacillus ? Consumption.

And now I ask, in the words of Professor Loomis, "whether they [these microbes] are the *cause* or the *scavengers* of disease ?"

Clinically, of one thing I am quite confident, viz : intra-pulmonary injections of iodine benefit phthisical sufferers. Why not, therefore, give them the opportunity of the treatment, and await patiently the auspicious day when even changing theory may be wholly favorable to their use.

In conclusion, let me urge upon you all to earnestly consider the facts brought to your attention in this lecture. It is a subject pregnant with the most vital interest. Our hospitals and dispensaries show a fearful death-rate from phthisis. Ordinary methods of treatment are confessedly disheartening by reason of their very slight influence in arresting the march of a dread disease, when, moreover, the *odds* are, for other and manifest reasons, many against the *poor* sufferers.

I have studied with you a series of topics which makes me more hopeful of what I may be able to do for the arrest or cure of pulmonary phthisis. In this line of research may all of you find renewed courage and conviction. Perhaps some one among my hearers may yet discover the "arcana" of science in its conflict with this destroyer of our fellows.—*N. Y. Medical Journal.*

# THE CHOICE OF REMEDIES.

By Laurence Johnson, M.D., New York.

(Read before the Section in Practice of Medicine of the New York Academy of Medicine, October 20, 1885, and published in the *Medical Record*, October 31, 1885.

Twenty years ago there was much less faith in the efficacy of drugs in the treatment of diseases than there is to-day. One of the most prominent medical teachers and authors was wont to say in those days that medicine was worth all the study given to it, if for nothing else than to enable the practitioner to make a diagnosis and prognosis. And this remark meant far more than appeared in the mere words uttered, for while the carefullest attention was paid to the diagnosis, clinical history, prognosis and pathological characters of disease, the treatment was dwelt upon in such general terms as to mean anything or nothing. In other words, disease was considered principally from the natural history standpoint, and the catalogue of self-limited affections, with whose natural course the physician should not meddle, grew to uncomfortable proportions.

It is unnecessary to discuss the causes of this particular form of medical scepticism. That it existed cannot be questioned ; and that its existence operated as an obstacle to the success of men educated with that lack of faith, is equally capable of demonstration.

Naturally this heresy, like many others which for a time have ruffled the current of popular belief, did not long survive ; but none the less, some other heresies, it led to a train of evils that long outlived the cause which produced them. A generation of medical men went forth to unlearn the false precepts of their teachers by the hard road of practical experience. One cannot but smile at the pitying contempt which the recent graduate of twenty years ago had for the simple faith of the old practitioner, who actually believed he could with drugs moderate the course of pneumonia or cure a rheumatism. Yet such was the fact. This evil was, however, of a somewhat personal character, and served chiefly to handicap the individual practitioner. The faith of the public remained unshaken, and he who ministered most successfully to the public was most substantially rewarded. In reviewing this subject in the light of personal experience, bearing in mind also the experience of professional friends with whose history I am familiar, I am fully convinced that to this sceptical training more than to any one cause, are due many of the difficulties encountered in the early years of practice.

But other evils followed. If drugs were of doubtful efficacy. they could not be dispensed with. As already remarked, the public faith remained unshaken. The public, when sick, would have drugs. The theory of the self-limitation of disease, together with the apparent financial success of homœopathic practitioners, who, it was believed, administered pleasant-tasting or altogether tasteless medicines, while the disease ran its natural course toward recovery or death, pointed the politic road—that of making medicines as palatable as possible. And here seems to me to be the origin of one of the greatest from which we, as a profession, and our patients are suffering. From striving to render remedies more and still more palatable, efficiency has been largely sacrificed to elegance, and unless the tide be stemmed in some way the whirligig of time will again bring around an era of scepticism, based, however, upon a more substantial foundation. While I would not for a moment decry elegant pharmacy, within reasonable limits, I do most vehemently protest against its abuse, as at present so largely practised. Granting for the sake of argument that the proprietary pills, elixirs, and other compounds so largely used are compounded in accordance with their published formulæ, it cannot be doubted that their use begets in the physician a routine practice altogether at variance with the intelligent exercise of his calling ; and the more skilful he may be in diagnosis, the greater is the contrast of his treatment. But in very many instances, at least, these preparations do not contain what is claimed for them. This has been shown again and again by chemical analysis.

Then how shall we be guided in the choice of remedies to use in the treatment of disease? This question seems to me easily answered in words, though practically it requires more thought than has been our custom to bestow upon it. In the first place, we should bestow upon materia medica and therapeutics the same careful study as is commonly given to other departments of medicine ; the same careful attention to details as, for instance, is exemplified in practical, and consequently, successful antiseptic surgery. Knowing first the remedies within our reach, not by name merely, but having a practical familiarity with them as individuals, an intelligent appreciation of their properties and effects, and of their comparative relations to each other, we shall be prepared to use them intelligently.

But one may say, this of itself would require the study of a lifetime. By no means. Let one but learn to distinguish the wheat from the chaff, and the materia medica will, so far as he is practically concerned, soon shrink to comparatively small proportions. Suppose the practical surgeon were to provide himself with all the instruments which have been used since surgery began to be practiced, how many of them would be employed to-day?

Our materia medica is certainly anomalous. Every root and herb at any time employed, from Hippocrates down, must needs be included, together with almost every chemical which man's ingenuity or nature's fertility has provided. But how many of them are used? How many are worthy of use? Hardly a larger number than that of surgical instruments. So while in surgery the antiquated are labeled and placed in museums, in materia medica the good and the bad, the useful and the demonstrably useless are left side by side as if for use together.

While everyone is familiar, at least in a general way, with the articles of standard worth of the materia medica, few have paid sufficient attention to the subject to enable them to pass a decided judgment upon the great number of useless and inefficient ones; and it is in bhalf of these little-known drugs that our credulity is most frequently appealed to by blind enthusiasts or designing speculators.

The properties, uses and limitations of the mineral preparations of the materia medica are pretty well recognized and understood. Take the preparations of iron, for instance. Everyone recognizes that though iron in any form is a tonic, yet there is a wide difference in the applicability of different preparations to different conditions. The same may be said of mercury, potassium or sodium. The facts regarding these minerals are firmly fixed in our minds, simply because the knowledge of them is classified. Now, if the same plan be pursued with drugs of vegetable origin, our knowledge of them would be just as readily available. In a general way, the individual plants comprising a great natural family, may be said to be as nearly related to each other as are the different chemical compounds of iron to each other. Take, for instance, the order Solanaceæ, which furnishes us, among others, belladonna, stramonium, hyoscyamus and tobacco. In these four plants we have about all the efficiency that this order is likely to afford in the way of narcotic agents. Each one of these has a sphere of applicability almost entirely its own. This fact being conceded, why waste time and energy in fruitless experimentation in search of possible new agents in the order?

Take, as another instance, the great order Labiatæ—the mint family. We are all, I trust, reasonably well acquainted with the properties, uses and limitations of peppermint. Well, now, this plant in itself represents all the medicinal activity of the entire order—a very large one. Other plants have different flavors, and may on this account be more or less agreeable to some persons, but their medicinal action is entirely similar, if not absolutely identical. And yet it is not uncommon to find specific effects attributed to plants of this order, and some men believe it. The Cruciferæ, the mustard family, affords another instance of similar character. Mustard seed represents all that is to be extracted from the order; all the rest may be dismissed without thought or hesitation. And so one may pursue this course through the vegetable materia medica, excluding, without hesitation, scores upon scores of drugs which but encumber his path.

When one has gone through the materia medica in this manner, and excluded the articles which reason and common sense convince him are beneath his notice, he will be ready to make his choice from those which remain, of the remedies to use. And here I would not wish to be misunderstood. For my own purpose I exclude a large number of drugs, not because they are altogether valueless, but because there are others much more efficient, and it seems to me that we should choose for our use only the best attainable. To illustrate, the number of vegetable tonics is very great. Almost anything bitter is possessed of tonic properties. Now, almost any vegetable bitter may be used in such a manner as to cure intermittent fever. The bark of the flowering dogwood, magnolia, tulip tree, or willow will do it, as will also tansy, wormwood, or boneset, but what man of sense would think of employing any of them when cinchona or its derivatives are attainable?

I believe it was Sam Patch who died while making an effort to prove "that some things can be done as well as others." It seems to me there is considerable Patch-work in medicine of a similar character, only it is not the operator who dies in the experiment.

But, some one may say, such a course as this would commit a man to contentment with his present choice of remedies for the balance of his professional life. Not at all. By accepting the verdict of his predecessors as to the worthlessness of certain drugs, he in no way binds himself to reject new discoveries with claims that can be sustained. He will, however, be less credulous, and, on this account, less likely to experiment with anything and everything to which his attention is called.

Moreover, such an examination of the materia medica would show upon what an unsubstantial foundation the claims of many of the articles rest. I have, in not a few instances, traced back the history of a drug from author to author till I reached the original statement that it was used for such and such purposes by the aborigines. And in some cases it has been easy to observe that the original statement was copied by one after another with very little variation, the later authors including the article simply because their predecessors included it. Such medical histories of drugs should, I think, make us slightly sceptical, and so long as this scepticism does not reach the point of blind prejudice, both we and our patients will be the better for it.

In days when journals are published for the sole purpose of pushing new remedies into notice ; when men are employed directly or indirectly for the express purpose of manufacturing reputations for drugs, of which the proprietors of the paper have a monopoly, a little judicious scepticism is not far removed from wisdom.

However uncertain medicine may be, however inexact as a science, however disheartening it may often be in practice, it does present some things which are sure. Having, then, excluded from our materia medica the things which we consider beneath our notice, we can begin our choice of remedies for daily use by accepting at once all those whose reputations rest upon a solid foundation.

Of remedies of vegetable origin, we should probably err little in accepting all those which yield to analysis any principle capable of producing physiological effect upon the human system, taking into account, of course, the relation of the quantity of the crude drug to the principle found, and the amount of the latter required to produce sensible effect.

Of drugs which do not meet this requirement—the possession of a demonstrable active principle—we have at least the right to reserve our judgment. Accustomed as medical men of the present day are to look for a cause of every effect observed, it seems to me only rational that they should demand the reason why a drug does thus or so, and if this be not forthcoming, they have the right to expect a very clear demonstration of the fact that a therapeutic effect is produced before accepting it.

It is an easy matter to say that a drug produces good effects in this or that diseased condition, and not very difficult to compile statistics from medical literature in support of one's statements, but let one attempt to verify such statements by actual experiment, and he often finds the task a hopeless one. I refer, of course, to drugs having no appreciable active principle capable of producing physiological effects, at least in doses proportioned to the amount of the drug employed.

Take, as an illustration, viburnum, a drug introduced a few years ago as "nervine, antispasmodic, astringent, diuretic and tonic, and especially useful in the nervous diseases of pregnancy and in the prevention of miscarriage" (U. S. Disp., p. 1521). Let anyone endeavor to verify these claims, and he will appreciate the difficulty of the task, and probably end with the conviction that the drug is wholly useless. Such, at least, has been my own experience. And yet viburnum is employed to a very considerable extent, notably in threatened miscarriage. If the patient does not abort, the drug gets the credit; if she does, why the case was too far gone to be influenced. While we, as practitioners of rational medicine, so-called, are uniformly sceptical regarding the therapeutic claims made by practitioners of other schools, and rarely esteem their stasistics worthy of serious consideration, we will find plenty of just such unreliable material much nearer home if we care to search for it.

As with viburnum, so with many other more or less fashionable remedies—their reputed efficiency is commonly greatest in cases incapable of demonstration. Of such remedies we should choose, at most, a very small supply.

But with all the drugs of vegetable origin possessing demonstrable active principles at our command, we still have more than we need, and further discrimination is necessary in order that our armamentarium be not too unwieldy. Classification of the most important ones, based upon the effects which they produce, is essential to final selection. Such a classification must, however, of necessity be artificial and somewhat arbitrary, because of the varying effects produced by one and the same drug in different doses and in different conditions. Illustration of this point is scarcely necessary. Everyone has in his own mind, or should have, the drugs which he employs thus classified to a greater or less extent, but not everyone uses wise discrimination in selecting the proper drug from a given class when prescribing at the bedside. How many of us use opium unnecessarily? How many employ quinine antipyretically, without rhyme or reason? How many administer ergot, digitalis, arsenic, or strychnine without careful consideration?

Having by the analytical course which I have endeavored to sketch, reduced the materia medica—both organic and inorganic—to a reasonable compass, and having those remedies which we will permit ourselves to employ classified, how shall we be guided in making the final selection? For the choice of proper remedies at the bedside is, of course, our ultimate end and aim.

This question appears to me to involve three considerations, viz: 1. Efficiency. 2. Liability to do injury. 3. Ease or difficulty of administration.

There can be no question about the advisability of always using the drug which will most certainly produce the therapeutic effect desired, save as this may be modified by its liability to act injuriously upon the patient. This is a very important consideration. For example, opium is very potent in relieving pain, and, judiciously used, seldom does harm. And yet it cannot be safely used in very young children; and it should not be employed in adult life one moment longer than absolutely required, owing to the danger to the patient of the formation of the opium habit. I know that this danger is often exaggerated, but it does exist, and we should bear the fact distinctly in mind when we prescribe at the bedside. The same may be said of chloral, and of the inhalation of ether and chloroform. These drugs should never be used indiscriminately; the question of their efficiency should always be modified by their possible dangers, and when these dangers are greater than the ills for which it is proposed to use them, they should be replaced by safer, though less efficient drugs. Take, as another instance, aconite, veratrum and gelsemium, all used as arterial sedatives indiscriminately—commonly, however, by different physicians. Considered merely from the standpoint of efficiency, there is little choice between them, but a consideration of their relative dangers shows them in an altogether different light. Aconite need never do harm; veratrum often produces unexpected vomiting, purging and dangerous depression; and gelsemium is nearly as unreliable as lightning. So that you may use aconite with safety, veratrum with fear, and if you push gelsemium you should do it with positive dread of the possible consequences.

I might go on illustrating this point almost indefinitely, by comparing the drugs of different classes with each other, but it is unnecessary.

It remains to consider the efficacy of drugs as modified by the difficulties of administering them. As previously intimated, it has been more or less the fashion to consider this first. As this involves the question of how best to administer the drugs we have chosen, it deserves rather more attention than my limits will permit.

The patients to whom we administer drugs may be divided into three classes: 1. Those who are so ill as either to offer no objection to swallowing anything prescribed, or, on the contrary, strenuously objecting to everything. To the latter division of this class may be added young children accustomed to rule the house. 2. People who, though perhaps not quite sick, are still not wholly well, and who consume medicine largely as a matter of habit. 3. People who consult physicians for want of some more active employment.

The first class of patients, those who are really ill, of course, comprises the bulk of those with whom there is any difficulty. With adults not too sick to appreciate their condition, and consequently both able and willing to co operate with us, there is commonly little trouble in administering anything necessary, and we are only required to choose the most efficient preparation of the drug desired. And here at once arises the vexed question, what are the most efficient preparations? If we are willing to accept the opinions of those who claim to be extremely solicitous for our welfare—the manufacturing druggist—we can have this question settled for us in the shape of A's pills, B's granules, C's fluid extracts, etc. If, however, we consider it among ourselves, we shall probably reach different conclusions. Now, it is the habit of some to consider the alkaloids or other active principles of vegetables as the most efficient preparations, and to use them exclusively, making morphine, for instance, represent opium, atropine, belladonna, strychnine, nux vomica, and so on, overlooking the fact that these alkaloids do not fully represent the drugs from which they are derived. In other words, they fail to recognize the fact that there is a time to administer morphine and another for solid opium; that, while strychnine has its uses, nux vomica has its peculiar sphere. Moreover, the extreme practitioners of this class often employ these potent active principles in the form of gelatin or other coated granules, whose ready solution in, and absorption from, the alimentary tract is a matter of conjecture. I am not in sympathy with this mode of practice; still less with that whose commonest dose-measure is the hypodermic syringe. The best preparation of a drug I conceive to be that which most completely represents the crude article; and, of vegetable remedies, this is more commonly in a liquid form. I would relegate alkaloids and other active principles to their proper place, and use them in solution, if practicable, by the mouth when possible, otherwise only when necessary. And when necessary to employ remedies in pill form, these should be freshly made, commonly by extemporaneous prescription, rather than turned out by the thousand dried, coated, polished and impregnable. And I firmly believe there would be much less complaint of the uncertainty of drugs if they were employed in this manner.

And here I wish to add one word for the benefit of those whose bugbear is *polypharmacy*—the giving of numerous drugs in one and the same dose. I see nothing irrational in the intelligent combination of drugs, and, theoretically, at least, no limit as to the number which may be thus combined and administered at a single dose. On the contrary, it seems to my mind much more commendable than the practice of frequent alternations, which only serves to annoy the patient. A young physician, in my hearing, once boasted of his physical endurance in watching with a patient six weeks, and administering medicine every 15 minutes. Though the patient lived, I hardly consider the case as evidence against the wisdom of combining remedies, if for no other purpose than to lengthen the intervals between doses. With remedies chosen in the manner indicated, I believe there will occur but little difficulty in treating all really sick people whose co-operation is obtainable. Regarding the obdurate and the fractious children I have no objections to make. Certainly the most elegant pharmacy will be of little avail.

As to the second class of patients, the habitual medicine-takers, why, it is altogether immaterial. If they require medicine at all, give it in the most efficient form, without regard to taste. On the whole, I think a decidedly bad-tasting mixture, one which stays by them, suits them best. Certain it is that some of the vilest tasting proprietary compounds have had the largest sales, and not because they restored those who consumed them, either. The same is true of pills: those which are the most drastic are most highly appreciated.

Regarding the third class, still less may be said. They consult you, as I have said, for the want of more active employment. If you care to bother with them at all—it is business that pays—let them have *elegant pharmacy*, the more elegant and less efficient the better.—*The Medical Age.*

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# THE SURGICAL TREATMENT OF GALL-STONES.

By Lawson Tait, F.R.C.S.

The only reasonable explanation of the formation of gall-stone with which I am familiar is one by Dr. Thudichum, that they are formed of deposits of cholesterin and coloring matter round casts derived from the finer ramifications of the hepatic ducts. This explanation is at least consistent with all the facts which have come across my own personal observation in dealing with gall-stones from the surgical point of view. It is very well known that gall-stones form in the substance of the liver itself, and that they are found in the hepatic ducts sometimes of large size. I myself have cut two out of the substance of the liver, the larger being more than an inch in length. They had given rise to suppuration, and were undoubtedly the cause of the hepatic abscesses for which I operated. But the great majority of the cases of gall-stones with which we have to deal surgically are contained within the cavity of the gall-bladder, and for clinical purposes it seems to me necessary to divide them into two varieties. The symptoms which they give rise to, and to some extent the details of the operation required for their removal, differ considerably in the two varieties. I am inclined to believe that the pathology of the two forms is not quite alike; but I have not the time now, nor, indeed, the opportunities, required to follow out the research which this view suggests. Suffice it for the present for me to repeat that for clinical purposes there are two kinds of gall-stones—we may call them the solitary gall-stones and the numerous gall-stones. The solitary gall-stone is not always quite solitary, but it has rarely more than one companion. The numerous gall-stones, on the other hand, are practically indefinite in quantity, and are generally of a pretty uniform and not large size. It may be that the solitary gall-stone is a mere remainder of the multiple formation, as may be explained by-and-by, but I have not found any evidence that this is the case. Let me describe, in the first place, two typical cases, one of each of the two forms, in order that the differences in the symptoms and in the peculiarities of the operation may be distinctly seen. The first solitary kind of gall-stone was very well illustrated by the first case of cholecystotomy which I performed, the first successful case on record. It has been already published in detail in Vol. 63 of the Medico-Chirurgical Transactions.

Elizabeth M., aged 40, was admitted to the hospital on August 18th, 1879, having been sent to me by Dr. Abraham Colles, of Bridgnorth, on account of an abdominal tumor. She had been married eighteen years, had borne six children, her menstruation had always been normal, and she had enjoyed perfectly good health until the summer of 1878. At that time she began to suffer from severe spasmodic pains in the right side, these being always aggravated by walking or by lifting even slight weights. In September she noticed a swelling at the seat of pain, and this slowly. During the previous winter her pain became much more intense, her appetite failed, she lost strength and flesh rapidly, and on admission she presented an emaciated and almost cachectic appearance. She also suffered at that time from incessant headache and sickness and obstinate constipation. The seat of pain was over the right kidney, where there was a heart-shaped tumor, firm and elastic, in which no fluctuation could be detected, and which was extremely tender to the touch. On examination under ether this tumor was found to be perfectly movable toward each side; indeed, it could be pushed completely across the middle line to the left side. All round it a note of intestinal resonance could be produced. When pushed over to the left side its heart-like shape became very apparent; and when it lay on the left side of the vertebral column, with its apex directed downward and to the left, its base evidently retained a connection with the right side. A careful examination of the urine gave only negative results, though she spoke vaguely of its having been occasionally dark in color, muddy and deficient in quantity. At the consultation held upon the case a variety of suggestions were made for diagnosis, the chief of which were cystic enlargement of a floating kidney, a tumor of the head of the pancreas, and dropsy of the gall-bladder. But no decided diagnosis was attempted, and my proposal to open the abdomen, and thus ascertain the nature of the tumor, was agreed upon. On August 23d I opened the abdomen in the middle line to the extent of four inches, the umbilicus forming the centre of the incision. It then became at once evident that the tumor was a distended gall-bladder. I passed the needle of an aspirator into the apex and drew off a quantity of white, starchy-looking fluid, probably amounting to between twelve and fifteen ounces; but I cannot speak positively as to its amount, as it was unfortunately thrown away by a nurse immediately after the operation. I then opened the gall-bladder at the point of puncture, so as to admit my finger, and came at once upon a large round gall-stone lying loose in the cavity. This I easily removed, and on further search I found another of rather larger size, and probably of pear-shape, at the entrance of the duct, impacted in it, and evidently the cause of the dropsical distension of the gall-bladder. The removal of this stone was a matter of very great difficulty; in fact, it took a very much longer time to effect than all the other steps of the operation put together. From the long, narrow, funnel-like cavity in which it was lodged, and from the mobility of the bladder, it was very difficult to seize, and when at last I did get hold of it, I found it adherent to the mucous surface. I had then to consider the extreme likelihood that in removing this impacted stone I might tear the walls to which it was attached, and thus certainly kill my patient. I therefore performed a very careful and protracted lithotrity, chipping little fragments off the stone regularly all over its exposed surface till I had the satisfaction of lifting out its nucleus. I then passed the blade of a fine pair of forceps on each side of it, and by a gentle squeeze broke up the remainder, and was then enabled to lift it all out. The weight of the stone removed entire is 4.2 grammes, and that of the fragments I could gather of the broken stone is 2.9 grammes; but of the latter as much again must have been lost on the sponges which were packed into the wound during the process of crushing, and upon which I had constantly to wipe my instruments. I washed the cavity out repeatedly, and took every precaution that I could to secure that no fragments were left. I then stitched the wound in the gall-bladder to the upper end of the wound in the abdominal walls by continuous sutures, leaving the aperture into the bladder quite open; and then I closed the rest of the abdominal opening in the usual way. She rallied from the operation completely in a few hours. In the further progress of the case there is very little to report, save that the flow of bile from the wound continued till September 3d, when the dressings were discontinued, and zinc ointment was used in their place. The stitches were removed, and the wound was completely healed on September 9th, when she began to take solid food, up to that time her diet having been restricted to milk and beef-tea. On the 14th she sat up for the first time, and on the 30th she went home quite restored to health, free from pain and all her former symptoms, and having gained at least fourteen pounds in weight. This patient remains in perfect health.

In this case it will be seen that the symptoms were never of an extremely acute kind, but the patient suffered perpetual discomfort, and very often the pain was somewhat severe. The impaction of the gall-stone in the cystic duct in such a case prevents the flow of bile into the gall-bladder, and all the bile passes straight into the duodenum in a continuous stream. None of the experiments which have yet been performed on the livers of animals give anything like a satisfactory explanation of the function of the gall-bladder, nor of the function of the bile, nor even of the rate at which the bile is secreted. The experiments which have been performed in my cases of cholecystotomy make it perfectly certain that the flow of bile is continuous in quantity, and, so far as I could determine, is fairly so in quality. The function of the gall-bladder seems to be the result of the meal system of humanity—that is to say, the secretion of bile is from time to time diverted, either wholly or partially, from the duodenum into the gall-bladder, and there it is stored until required, and, when required, a double stream, one from the liver and the other from the storage in the gall-bladder, is passed into the duodenum. I have come to another conclusion, of a curious and certainly novel kind: that the quantity and quality of bile is greatly influenced by the condition of the peritoneum; for one of the earliest and most important symptoms in abdominal trouble is the occurrence of bilious vomiting. I have uniformly found that, if I can get ahead of this by rapid purgatives, I save my patient from fatal peritonitis. I regard Seidlitz powders as far more important in abdominal surgery than all the ingenious contrivances of Lister. It is not unlikely, but it is not known to be the fact, that the double exit of bile, of which I have just spoken, takes place whilst digested food is passing through the duodenum—certainly one can imagine that it would be at that time most needed; whilst, on the other hand, as this bile would to some extent arrest the process of digestion already accomplished in the stomach, it is just possible that this theory is exactly the reverse of what actually happens. We are, indeed, in a condition of absolute ignorance upon all these questions. I have watched some of my cases with the greatest care to ascertain, if possible, when the contraction of the gall-bladder, which must have some kind of periodic discharge, took place, but I have entirely failed to obtain any clue to it. It must be perfectly clear that if, in such a case as the one I have described above, there should still remain, as doubtless there would, some machinery in action by which the gall-bladder could be made to contract periodically, it would do so in obedience to directions of a uniform kind, and failing to empty itself, by reason of the gall-stone impacted in its neck, it would cause discomfort and pain. This sort of indication has been noticed clearly in some of my cases, but I have not yet been able to determine any definite relations in its occurrence; but it is in such observations that we should find the clue to the true functions of the gall-bladder.

The solitary gall-stone, when cut in two, shows that it has grown very much like a calculus in the urinary bladder by consecutive layers of deposits. It is nearly always of fairly large size; and the number of rings which are comprised in its section show that it has been in its location for a considerable time. An instance in its history at last occurs by which, apparently in a contraction more than usually vehement for the emptying of the gall-bladder, it gets lodged in the neck of the cavity so firmly that from that moment no bile passes from the hepatic duct backwards into the gall-bladder.

Then we find that the secretion of the lining membrane of the gall-bladder itself, which most certainly must always be going on in health, is found to play a very important part in the pathology of the case. This mucus contains a ferment, a fact which I have ascertained beyond all doubt; but I have not thought it worth my while to make a protracted research into the nature and reaction of this interesting substance. It is contained in a considerable quantity in the mucus, which is always found in a distended gall-bladder when the solitary gall-stone is impacted in the cystic duct. This mucus is always of the same character, very like the old-fashioned quince bandoline used by the ladies of the early part of the Third Empire for fixing their hair. It resists putrescence for a very long time, and has some most curious reactions. It is probably secreted by the lining membrane of the gall-bladder during a period of activity, to be again to some extent absorbed during the periods of rest, and at each time of contraction of the viscus it aids in the process of driving the stone further and further through the cystic duct. So far as such cases have come under my own observation, the stone is very rarely indeed driven through the duct when of the large size which characterizes the solitary stone. The trouble in the gall-bladder finally leads to suppuration, and then the stone is evacuated by one of two ways: either by the adhesion of some piece of intestine to the inflamed gall-bladder, and the formation of a fistula between the two canals through which the stone is allowed to pass; or by the adhesion of the base of the bladder to the abdominal parieties, followed by suppuration, ulceration and the discharge of the contents of the gall-bladder through the outside wound. Large solitary stones have often had this history. I have seen several instances myself of both methods of termination, and medical literature is full of the records of such cases, and in not a few instances where the discharge of the stone took place through the intestine fatal intestinal obstruction has been the ultimate result. The feature which I want to impress upon my readers is that in these cases the stones are never numerous; and in the great majority of the instances they are quite single. In cases of solitary gall-stones, therefore, we find a very frequent incident in distension of the gall-bladder, the distension being so great as to present the appearance of a large pear-shaped tumor containing a pint, or perhaps even two pints, of opalescent mucus—never bile. The operation in such a case is easy enough, so far as the opening of the gall-bladder is concerned and the bringing of it outside; but the removal of the calculus impacted in the distended neck of the gall-bladder is an extremely difficult thing. It consists really of a kind of lithotrity, because it is necessary to remove the fragments very completely. I have a pair of alligator forceps for seizing and crushing the stone, and I drive out the fragments by the aid of a stream of water, after the stitching of the gall-bladder to the wound has beed effected.

Different altogether is the condition which we find in cases of numerous gall-stones, and I need not remind my readers that many hundreds of these stones are sometimes found in the same gall-bladder, varying from a mere fraction of a grain in weight to eight, ten or twelve grains, the great majority of them, however, running to a very uniform size, between two and three grains. It does not require much thought to come to the conclusion that the pathological condition which brings about the existence of these calculi is in all probability a different one from that which leads to the formation of the solitary stone. Whether Dr. Thudichum's explanation would apply to both or not, is a matter of doubt; but if it should, it is perfectly clear that the formation of the numerous stones must be a continuous action, and that the nuclei upon which they are coated must be thrown off in a sort of continuous fashion. After having been formed in the gall-bladder by a deposit of cholesterin, they are perhaps denuded of it to a certain extent by pressure, but greatly by friction, or so modified by pressure as to assume the facetted appearance so well known. I had once in my possession a gall-bladder, removed after death, full of stones, which were so perfectly facetted that they fitted together very much like the pips of pomegranate, each facet fitting to its neighbor with mechanical exactness; unfortunately the specimen was destroyed by an accident. In the cases of solitary stones the nuclei are certainly much more rare, and their production is not continued for so long a time as in the other cases. The growth of the stones of both kinds of course takes place in the gall-bladder; but it is clearly a delusion which has guided the men of great authority who, in a recent discussion of the question, expressed their belief that the gall-bladder is the cause of gall-stones, and that to prevent their production the gall-bladder must be removed. Nothing could be more absurd.

The existence of the urinary bladder does not certainly cause stones to grow there, and it would be quite as reasenable to remove that important organ after the operation of lithotomy as it is to advocate the removal of the gall-bladder after its contained stones have been evacuated.

In cases where patients suffer from numerous gall-stones the gall-bladder is never distended, at least has never been so in my experience, to anything like the extent or for the length of time which I have found it to be in the case of large solitary gall-stones. The reason of this is not difficult to find. In the first place, in the case of numerous gall-stones they are nearly always small, although an occasional large one is found amongst them. Their irregular size is such as to facilitate their passage through the duct, and also to permit the escape of bile alongside of them whilst they are being passed. They are not consequently lodged for any length of time in the duct, and they do not prevent the flow of bile into the gall-bladder permanently, as is done by a large solitary calculus when impacted. When we operate, therefore, in cases of small numerous gall-stones, we find them lying in bile, the gall-bladder to a large extent continuing to perform its functions. Before the operation a tumor formed by the distended gall-bladder may be discovered easily one day, and may have entirely disappeared before the next examination. This phenomenon I have repeatedly observed in three of my cases of cholecystotomy for numerous gall-stones. The distress which the general acuteness of the symptoms causes in these cases is infinitely greater than in those of large solitary stones, for the patient may be found to pass small ones in large numbers, and with great frequency, each stone causing terrible agony.

I recently operated upon a lady from Bristol who for six years had a series of attacks of gall-stone colic, which left her very short intervals for repose. During that time thirty-six stones were recovered from the fæces, and doubtless these constituted only a part of the total number passed. When at last, worn out with suffering, she came to me for surgical relief, I operated, and found twenty-two stones in the bladder. During the whole of this protracted suffering jaundice was present on the first attack only, at a time when she passed a stone barely 3.2 grains in weight, one of the smallest she had ever passed. This leads me to say that the common idea that jaundice is a frequent symptom of gall-stones must be entirely erroneous. It most assuredly never has been present in the cases upon which I have operated for large stones impacted in the neck of the gall-bladder ; and for the very evident reason that as the bile in such cases is not allowed to enter the bladder, but is obliged to pass freely into the duodenum, there has never existed any reason for the production of jaundice. In the case of a small stone passing through the duct, the greatest amount of distress seems to me to exist during that time when the stone is engaged in dilating the cystic duct. Jaundice can occur only during the time when the stone is resting in or passing through the common duct. This duct is shorter and wider than the cystic duct, and the distress occasioned by a stone passing through it is most certainly much less than that occasioned by the passage through the cystic duct, and after a first stone is passed through the common duct all its successors seem to follow with great ease. We have therefore, in my experience, the occurrence of jaundice in the passage of gall-stones absolutely limited to the passage of the first stone through the common duct.

The operation for the relief of cases of multiple gall-stones differs considerably in its details from the operation in cases of large solitary gall-stones. In the first place, as the gall-bladder is not distended, the diagnosis is not quite so certain, and when the abdominal section is made the gall-bladder is not so easily found. After it has been found and pulled out, it does not require to be emptied in the same way and with the same care, and when opened the bile will be found to flow continuously out of it and to require great care to prevent it flowing into the abdomen. A scoop or a pair of forceps will easily remove the great bulk of the stones from the bladder, but we never can be sure that we have removed them all. There may be one beyond the reach of the finger or of instruments, of small size, yet sufficiently large to form a serious obstruction to the passage into the duodenum of the contents of the gall-bladder after the biliary fistula is closed. One certain fact is this, that the fistula closes readily enough, but it will remain closed only until the secretion of the mucus in the gall-bladder has so distended the cavity of the organ as to begin to drive the gall-stone onwards. It then becomes a question as to how long the wound will remain closed, and how far the bladder wound can sustain the pressure required to force the gall-stone onwards. The wound yields first and most readily, and then we have the wound opening at intervals to give vent to a large quantity of clear mucus, which has extended the gall-bladder. In one case I was unfortunate enough to have left a stone close by, or perhaps almost at the junction of the cystic and common ducts, so that when the fistula closed the secreted mucus forced the gall-stone into the common duct, past the union of the cystic and hepatic ducts. The result of that, of course, was that the whole of the bile of the patient's system passed backwards into the gall-bladder and out through the biliary fistula. I hit upon a somewhat novel idea, and crushed the stone from outside the duct, and this I accomplished satisfactorily, as narrated in the *British Medical Journal* of July 12th, 1884, performing a sort of chole-lithotrity.

It may be well to describe somewhat in detail the method of operating so far as is common to the two kinds of cases; and, indeed, the preceeding is a very simple one. The details have been now completely elaborated, and every departure from them so far has only led to disasters. I have now performed the operation sixteen times, with uniform success, whilst the variations from the proceeding I am about to describe have been disastrous to the extent, in the hands of others, of between 50 and 60 per cent.

Having felt the position of the hepatic notch, I make an incision from the margin of the ribs over it directly, or almost directly, downwards, cutting carefully through the various textures until I reach the peritoneum. This is carefully seized by two pairs of forceps and pulled backwards, an opening having been made between the two pairs of forceps large enough to introduce my forefinger. With this I search for the gall-bladder; and sometimes I have experienced considerable difficulty in finding it. Generally speaking, the stones can be felt in the bladder before it is opened. In two cases out of the sixteen I have not found any gall-stones; in one case a mistake had been made, and in the other the disease was in all probability malignant. The details of these cases have already been published. Having found the gall-bladder, I cautiously bring its fundus towards the wound and seize it by a pair of forceps. If it is distended, it is first of all tapped and emptied; if it is not distended, or if it has been emptied, I lay it open by scissors or forceps to an extent sufficient to get a finger in; the edges of the wound in it are then seized by forceps and any bleeding points secured. My finger then explores the bladder, and by means of forceps or scoop all the stones within reach are removed. A continuous suture is then applied so as to accurately close the peritoneum by uniting the edges of the wound of the abdominal wall to the edges of the wound of the gall-bladder, the two peritoneal surfaces being too carefully adapted to each other. An indiarubber drainage-tube is then placed in the wound, and this is kept in for six or seven days, until it is possible to remove the stitches. If the stitches are removed along with the drainage-tube, the wound speedily heals; and if all the stones have been removed, the patient is already cured. If the wound reopens and bile discharges, or mucus from the gall-bladder, the remaining stone which occludes the passage must be dealt with, either by crushing from the outside of the duct or in some other way, as circumstances or the ingenuity of the operator may suggest. I certainly vouch for this, that so far as my cases have gone it is not known that they have any tendency to the reproduction of the gall-stones. Certainly they have not given any indication of it so far. I would point out that even if this did happen, an incision through the skin, probably only half an inch deep, over the site of the old scar, would reach the gall-bladder without opening the peritoneum at all, and any reaccumulation of gall-stones might be removed without the slightest difficulty or danger. I need not point out that in the event of the operation being performed which is suggested as the alternative to that which I have described, namely, cholycystectomy—after an accumulation occurred in a case of numerous gall-stones, as actually did occur to myself where a small gall-stone lodged beyond the junction of the hepatic and cystic ducts, the operation in which the gall-bladder was removed, would be of necessity fatal, because all the secretion of bile would find its way into the peritoneum. The detailed results of this operation of cholecystectomy have not been published, and what I know of them is only by hearsay, but I have a strong suspicion that the deaths in two of the cases are to be attributed absolutely to this cause. At any rate, the mortality of cholecystectomy is 50 per cent.; the mortality of cholecystotomy has not yet appeared.

Here I should like to say a word as to the method of dealing with statistics, which has become only too common within recent years, since statistics have been insisted upon in the realm of abdominal surgery. I certainly am very far from objecting to statistical information ; but such information, to be of the slightest value, must be complete, and it must be accurate. Alongside of it, and at the same time, must be furnished any qualifications which may render it more or less valuable. When speaking of the statistics of an operation, the mortality of a particular proceeding must not be confused with the mortality of a particular operator, still less with the mortality of a group of operations gathered indiscriminately from all kinds of sources. Thus nothing can be more fallacious than such a group of figures as I recently saw from the pen of a well-known American writer, who asserted that the mortality of a particular operation, with which my name has been very intimately associated, was something like 25 per cent., whereas, the real mortality of the operation is 2 per cent. He arrived at his conclusions by taking about 220 or 240 operations from the practice of nearly forty operators, each of whom had operated in from six to ten cases. It is perfect nonsense to call this the mortality of the operation ; it really was the mortality of some thirty or forty men bungling along in the early part of their experience. No man is born with an intuitive knowledge as to how such operations are to be performed. It need only be said that every surgeon in his early experience will have a mortality necessarily higher than when his experience is ripe in any particular operation. In the statistics which I am now alluding to the mortality was due, not to the operation, but to the inexperience of the operators. Nothing could be more startling than to contrast results like these with a similar number of operations taken from the records of three surgeons who could contribute between them nearly 400 cases. So it is with the operation of cholecystotomy. It has recently been condemned in a table composed of some twelve or fourteen cases, not any two of which have been performed by the same man. The mortality of such a table, again I say, is not the mortality of the operation, but that due to the mistakes of the operators. The true mortality of the proceeding is to be judged from a fairly large group of cases in the hands of one particular surgeon, and the largest group which can be yet offered is that in my own practice, of sixteen cases without a death. I therefore have no hesitation in saying that this operation is one in which the mortality is extremely low, very much lower than the mortality of the disease which it is proposed to cure by its means.

There remains to be spoken of only one other feature of this modern triumph of our surgical art—that is, it has become the fashion of late to apply to this proceeding a cannon of criticism which, as I have often said before, is not applied in general surgery. We who practice abdominal surgery are told that we have no business to perform these operations, save in cases where life is absolutely threatened ; that, in fact, we alone in the ranks of the medical profession should suspend our beneficent powers for the relief of suffering, and step in only with the hope of resuscitating a semi-moribund patient. I turn round and ask my friends, the general surgeons, What about plastic operations? Why should osteotomy for deformity ever be performed? Why should the tendons for club-foot ever be divided? The mortality of osteotomy is not nearly so low as the mortality of many of the operations which are performed by us for the relief of agonizing suffering in the abdomen. Certainly there is neither pain nor danger to life in the legs of a weakly child who is deformed, nor is there any justification upon such a line of argument for the divisions of tendons, nor for the performance of plastic operations for the remedy of deformity. Such a line of argument is, in fact, so perfectly foolish, that it requires only to be slightly studied to be completely abolished. Our functions are not those merely of the life-saver; our greater and much more successful function is the relief of pain and suffering. Amongst all the many advances which modern abdominal surgery has seen, I claim that there is none so certain, nor so free from risk, nor so brilliantly successful as the surgical treatment of gall-stones. *London Lancet.*

## PHILOSOPHY OF LONGEVITY.

* * * To make yourself miserable at forty in the wretched ambition to add a few worthless years to your score after you have turned seventy or eighty, is surely a poor-spirited sort of game. To spend one's life feeling one's pulse, looking at one's tongue, and asking one's self if one is treating one's constitution quite fairly, is not life at all. It is to live in a hospital, or, at any rate, an infirm-

ary. Still, there are some persons who are congenitally cautious, congenitally cold, congenitally calm. It is their nature to take things quietly, never to be in a hurry, never to excite themselves. They are content to sit in an easy chair for so many hours, read an agreeable book for so many hours, drive in a carriage for so many hours when the weather is favorable for so many hours, and to regulate their existence by clockwork. They may live to one hundred, they may live to one thousand, but in truth they have not lived at all. The man who really gets the best that can be got of life is the man who, with a fairly good constitution to begin with, is ready to squander it at any moment and on every occasion in a sufficient cause. He keeps no account of profit and loss with his vital energy ; he sees work to do, and he does it ; he sees pleasure to be enjoyed, and he enjoys it. He is alive all his life save when he sleeps, and he awakes from each fresh slumber looking the world cheerfully and courageously in the face, and ready, and even eager, to be a combatant when there is a good, honest fight, and a runner when there is a good, honorable race afoot. He may not live to be one hundred, but he may well live to be seventy, seventy-five, or even eighty. He may have a career, if not so conspicuous, yet as active, as varied and as restless as that, say, of Mr. Gladstone, and yet not be really old when time registers him among the aged. "Better fifty years of Europe than a cycle of Cathay ;" and better twenty years of uncalculated activity than the slow pulse and measured step of the circumspect snail that creeps surely on to one hundred. We are not denouncing centenarians. They are like angel's visits, few and far between, and they are too rare not to be welcomed. Moreover, we doubt not that they deserve their length of years. But it would be a misfortune if it was ever thought an object of life to live very long. The object of life is to live, live generously, live bravely. As Shakespeare says : "Ripeness is all." *London Standard—Sanitarian.*

# REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE THIRTY-SECOND ANNUAL MEETING OF THE MEDICAL SOCIETY OF NORTH CAROLINA, held at Durham, May, 1885. Pp. 146—xxiv.

This volume is being distributed as rapidly as possible. Its contents are varied, and shows the State Medical Society to have done a large amount of real business. When we consider how much is done in perfecting our organization in the work of the Board of Examiners and the Board of Health, and how much of this is new and untried ground, the small number of scientific papers is not surprising. There is no doubt that in years to come it will be a source of gratification to realize that the body of the Society labored with more assiduity for the accomplishment of the reforms which make such a large part of our record, than for literary or scientific effect. But now, that our work of organization has assumed such a definite shape, we will have no such apology to make in the future for not giving the medical world an abundance of well digested scientific work.

The address by President McDuffie was, by previous resolution of the Society, somewhat in the nature of a message, to direct attention to topics which he esteemed of importance. After paying an affectionate tribute to the honored dead, he dwelt with especial force upon the necessity of the preparatory education of medical students. Dr. McDuffie put the whole matter with unusual force, and very few men in the State are as deeply imbued as he with the educational needs of the day. His plea for thorough, prolonged and special preparation as a prerequisite to the study of medicine, was cogently presented, and is doubtless the key-note which must be sounded by the profession in its earnest movement for better educated doctors. We trust Dr. McDuffie's advice in reiteration of a resolution of the Society at its meeting in Raleigh last year, is being universally followed, viz: that no student should be admitted to the office to study medicine until he gave satisfactory evidence of his educational fitness to undertake it.

We thank Dr. McDuffie for his words of commendation for the work of the JOURNAL, and still more do we thank him that he followed his own precept by contributing to our pages recently. For the body of the profession his words need still to be repeated, that original communications are so inadequately furnished us by our own doctors. We look for better things from them.

The "Clinical Record," presented by Dr. Robert S. Young, was awarded a prize of a case of surgical instruments by the Society. It is proper to say in this connection that only two papers were presented, and the duty of the committee of awards was a very simple one.

Dr. Thomas Hill's paper on the "Hæmostatic Properties of Rag-weed" has been extensively copied by other journals, and we only regret that the mistake by the writer of this in supplying the author's name—neglected by the author, unfortunately—passed so long undetected as to be impossible to recall it except by delay and expense. We trust the author will be willing to overlook the error.

"Shall Woman Practice Medicine?" is the subject of the annual address by Dr. L. Julien Picöt. The speaker is full of ardor and vehemence in opposition to the movement, and he doubtless had his audience almost wholly in accord with him.

Dr. H. B. Weaver's on "Obstetrics and Gynecology" was very long, and was, of necessity, curtailed by the publication committee. In its present length, doubtless, it will be reread with pleasure and profit.

Dr. Julien Baker's "Case of Aphasia" would have been more interesting if the illustration sent to the Committee had been engraved and printed in colors, but the expense was considerable, and it was omitted.

"Micro-organisms in Relation to Disease" is the title of Dr. Hubert Haywood's paper, the annual essay for 1885. It was thoroughly enjoyed by his large audience, and without an exception no paper has ever been presented to the Society which was more timely or more exhaustive. We think the Committee was wise in publishing it in full.

The eyes of some of the younger members of the profession will light for the first time upon the "Code of Medical Ethics." This document has been much discussed, but not more vehemently by any than those who had not read it through. It is an admirable formulation of the moral principles which should be the guide of doctor's in their way through the labarynthian paths which lie between them and success. We trust it may not be allowed to go out of fashion to obey its precepts. The Constitution of the Society was reprinted, as ordered by the meeting, but it will be seen by a careful reading that it needs severe revision if to be of any use. It might be condensed with decided advantage.

The list of members has been rearranged alphabetically for the convenience of the Secretary and others consulting it to find the name of persons. It would be interesting to have the record with the place and date of graduation and licensing appended to each name.

We did not intend to mention every paper when we took the Transactions up, and we have tried not to indulge in fulsome praise, or grumble unnecessarily. We are chiefly gratified by the belief that this is the forerunner of an exceptionally good volume for the next year, and the President and Secretary will pretty soon now put the ball in motion for '86, and we trust that every person having the ability will respond cheerfully and promptly.

LECTURES ON DISEASES OF THE NOSE AND THROAT. By CHARLES E. SAJOUS, M.D. Illustrated with 100 Chromo-lithographs, from Oil Paintings by the Author, and 93 Engravings on Wood. Philadelphia: F. A. Davis, Publisher, 217, Filbert St., 1885.

The unusual activity of the specialists in the department of rhinology and laryngology within a few years is rather surprising. Volume after volume, from the modest pamphlet to the pretentious volume of hundreds of pages, issue from the press at short intervals. But since that of Lennox Browne's volume on diseases of the throat, none has come under our notice on such a scale. The author of this volume, like the author just mentioned, was possessed of artistic talent, and made his own colored illustrations. The table is large and clear, the lines leaded, the margins ample, the paper good. The execution of the chromos is in quite vivid red, but some of them are represented as seen under gaslight, and are therefore highly colored.

Cocaine, which has done such excellent service in diseases of the throat, is given a full measure of attention by the author. So also with other comparatively new remedies, such as iodoform, eucalyptol, chromic acid and others.

Many new and unique methods of applying remedies have been added, illustrated by appropriate wood-cuts when necessary, but not in such profusion as to confuse the reader. This volume will be distinguished as being a very excellent specimen of book-making, notwithstanding the many really superior works which have within a few months enriched the literature of medicine.

AN ATLAS OF CLINICAL MICROSCOPY. By ALEXANDER PEYER, M.D. Translated and Edited by ALFRED C. GIRARD, M.D. First Edition from MS. of Second German Edition, with Additions. Ninety Plates; with 105 Illustrations—Chromo-lithographs. New York: D. Appleton & Co., 1, 3 & 5 Bond St., 1885. [Price $6.00.]

This work is a very valuable acquisition to the profession, and is well worth the extreme pains which the translator and the publishers have taken in presenting it to the American profession. Those physicians who are experts will recognize at once the beautiful specimens which the author has collected, and enjoy the very excellent rendering of them by the engraver; and the unskilled microscopist will value these illustrations as standards of comparison. Blood, milk, urine casts and crystals from the bladder and kidneys, genitals, sputa, stools, stomach contents, fluid from abdominal tumors, secretions from the female sexual organs, and various micro-organisms provoking disease, have from one to several diagnostic microscopic illustrations.

The descriptive text is brief, but highly instructive, and the whole work is presented by the publishers with such superb finish, that it cannot fail to be appreciated by those who are striving to be more accurate in diagnosis.

PRACTICAL SURGERY: Including Surgical Dressings, Bandagings, Fractures, Dislocations, Ligature of Arteries, Amputations and Excisions of Bones and Joints. By J. EWING MEARS, M.D., with 490 Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. [Price (cloth) $3.75.]

This is the second edition of Dr. Mears' "Practical Surgery," which in seven years has become a stout volume of nearly 800 pages.

Surgical dressings, bandaging, fractures, dislocations, ligaturing arteries, imputations and excisions are treated very plainly and with good illustrations. This work deserves the name of manual, and both for its size and the practical value of its contents it will serve the student and the junior practitioners of general surgery an admirable purpose. The space devoted to fractures and dislocations—by far the most difficult and responsible part of surgery—is ample, and we notice many new illustrations explanatory of the text. Good books in this department of medicine are now not infrequent, and it is gratifying to realize that they are being produced in the United States, so that we no longer have to depend upon Ferguson, and Bernard and Huette as ready reference manuals. We can commend this volume to our readers.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Being a Complete and Convenient Work of Reference for Information upon Topics Belonging to the Entire Range of Scientific and Practical Medicine, and Consisting of a Series of Concise Essays and Brief Paragraphs, Arranged in the Alphabetical Order of the Topics of which they Treat. Prepared by Writers who are Experts in their Respective Departments. Illustrated by Chromolithographs and five Wood Engravings. Edited by ALBERT H. BUCK, M.D,, New York City. Vol. I. New York: Wm. Wood & Co , 56 & 58 La Fayette Place, 1885.

Notwithstanding the long title of this volume, it does not convey the idea that it is a handsome quarto of over 800 double-column pages, and that this is only one-eighth of the whole work! Only an examination of such a volume can convey an adequate idea of its scope, as the editor well says. The arrangement of the subjects is in alphabetical order, beginning with AACHEN (*Aix la Chapelle*). To each article is appended the name of the author, which is preceded by a sufficient bibliography, not so copious as to be bewildering or to appear pedantic. It can be easily understood, then, that sufficient space is given to every topic undertaken, and every subject embraced in anatomy, physiology chemistry, surgery, materia medica, pharmacy, medical jurisprudence, toxicology, therapeutics, including balneology, medical botany, climatology, midwifery, gynecology, etc., is undertaken at length. For instance, 17 of these quarto pages are devoted to the subject of *Antiseptics* (by Roswell Park); 16 to the *Arm* (by W. H. Murray, with original illustrations); 18 to *Arteries;* 20 to the *Bladder*, and so on.

The names of many well-known authors frequently occur, and the name of writers little known heretofore, except by an occasional medical journal article or a contribution to a Society Transactions, appear here for the first time. It is surprising, and, of course, gratifying, to see how versatile and prolific the pens of some of our younger men have become.

Therapeutical subjects are largely from the pen of Dr. Edward Curtis; botany by Dr. Wm. P. Bolles; surgery by Dr. Lewis A. Stimson, Dr. J. Collins Warren, Dr. Jos. Ransohoff, Dr. Thomas L. Steadman and others; diseases of the eye by Dr. John Green, Dr. James L. Minor, and Hasket Derby; pathology by Dr. William T. Councilman, Dr. John H. Musser, Dr. Mary Putman Jacobi, Dr. L. McLane Tiffany, and Dr. Thomas E. Satterthwaite; anesthetics by Dr. J. C Reeve; anatomy by Dr. M. H. Richardson, Dr. Francis J. Shepard and others. It is not necessary to detail further the division of labor which has been so wisely apportioned and so faithfully done, and it could not be done without doing injustice to some of the best contributors by overlooking them in such a multitude of subjects.

The wood-cut illustrations are very largely new designs, and many of them original, especially is this to be said of the anatomical illustrations; the botanical illustrations are mostly of foreign authorship (Baillon). The chromo-lithographic plates are four in number. The first one is a full page illustration of *Arnica montana*, the second Blood Spectra, the third four figures illustrating the pathology of cerebral hæmorrhage, the fourth illustrations of several forms of carcinoma.

No work with which we are acquainted bears any resemblance to this magnificent quarto, without, perhaps, we might compare Quain's Dictionary; but this latter volume is a ponderous, large octavo, printed in a type very trying to the eyes of the seniors in the profession, and lacking very materially the full treatment which is given in the "Reference Handbook," and is entirely devoted to practice.

The owner of the eight volumes will have a library complete in itself, admirably arranged for ready reference, and up to the advance line of progressive medicine. We have nothing but hearty praise for this great work, and congratulate Dr. Buck upon the organization of a literary-scientific corps which has had no superior, if an equal, in the history of American medicine.

EPILEPSY AND OTHER CONVULSIVE DISEASES: Their Causes, Symptoms and Treatment. By W. R. GOWERS, M.D., F.R.C.P. New York: William Wood & Co., 1885. Pp. 255.

This is the September number of Wood's Library of Medical Authors, and is a most excellent addition to the year's list of this successful series, now in its seventh year. We are promised in the series for this year also the "Diagnosis of the Diseases of the Brain and Spinal Cord" by the same eminent author, and we need hardly say that these two volumes will enrich any library. The success of Dr. Gower's writing can be more justly estimated by the frequency with which he is quoted by authors in the same department.

The study of epilepsy has always been a field where some of the best minds in the profession have wrought assiduously and hopefully; but few of the writers upon the subject have succeeded as well as Dr. Gowers. Especially has he made clear some of the difficult differentiation between hysteria and epilepsy, and his studies are founded upon a very large number of cases. His method of study is scarcely less valuable than his skill in presenting his topic. The detail of symptoms is richly intercalated with illustrative cases.

Dr. Gowers has not been able to add anything as to the nature of epilepsy by pathological anatomy; in fact, he says that "we must seek other evidence as to its nature than pathological anatomy affords. Pathology and experiment fail to take us further towards a definite conclusion, but from clinical observation we may gain other important information." He concludes, with Hughlings Jackson, that "the teaching of pathological anatomy, if inconclusive alone, is right in its indications in at least a large number of epileptic attacks, that the process of the fit commences in the cerebral hemispheres." Further on he says: "We are probably not justified in concluding that attacks never arise in the medulla. The extremely varied character of the auræ, referred as they are to every part of the organism, shows that the discharge may commence in any part of a very wide region, perhaps the whole of the brain, in which tensor-motor processes are represented. The cases are, however, very few which afford any clinical evidence that the *discharge* [i. e., the sudden violent functional activity of nerve cells, causing the spasm which the observer sees] commences in the medulla. Under the head of treatment the author passes by arsenic with the remark that its use in no case produces any marked effect on the attacks, but was used in a large number of cases on account of the readiness with which the bromide rash could be prevented by its use.

He has had no experience with a remedy which of late years has again been resorted to with marked effect viz: stramonium. Either alone, or in combination with the bromides, in fifteen-drop doses of the tincture three times a day, stramonium has been giving some excellent results, and deserves to be studied anew.

Excellent results are reported from the use of nitrite of amyl in the arrest of individual attacks. "If it produces flushing of the face before the patient loses consciousness, the attack is usually cut short." Trousseau's highly vaunted belladonna treatment does not stand in such esteem, and thinks it is rarely useful alone.

Many valuable suggestions can be found in this volume by a cursory examination, and one specially interested in the subject can do no better than to study this volume carefully.

JOURNAL OF THE ELISHA MITCHELL SCIENTIFIC SOCIETY for the years 1884–1885.

This is the second year's proceedings of the Mitchell Society, and it will be seen by the report of the resident Vice President, Prof. J. W. Gore, that the interest of the young society has been augmented during the year, and that the future prospects are good.

The papers contributed for the year are varied and of general scientific interest, as may be judged by the following list: "Latitude of Chapel Hill," by Prof. J. W. Gore; "The Manufacture of Acid Phosphate," by W. B. Phillips, Ph.D.; "Analysis of the Leaves of Ilex Cassine," by Prof. F. P. Venable; "On the Determination of 'Total' Phosphoric Acid in Fertilizers," by F. B. Dancy; "Analysis of Spiegel-Eisen," by Max Jackson; "Occurrence of Citric and Malic Acids in Peanuts" (Arachis hypogæa), by E. A. de Schweinitz; "Meteorological Record at Chapel Hill for Five Years—1880–1884"; "Certain Reactions of Phosphorus," by F. P. Venable; "Notes on a Petrified Human Body," by T. W. Harris and J. A. Holmes; "Analysis of a Deposit from Saltmaking," by W. B. Phillips; "Analysis of Crystals of Dog-Tooth Spar from Ganuder Hall, 15 Miles Below Wilmington," by W. B. Phillips; "Some Notes on Plant Transpiration," by Prof. F. P Venable; "Experiments to Determine the Effect of a Solution of Common Salt (Na. Cl.). as a Wash in Determination of 'Citrate Insoluble' Phosphoric Acid, to Replace Pure Water Wash," by F. B. Dancy; "On the Practical Quantitative Determination of Sugar in Urine," by James Lewis Howe; "A Preliminary List of Additions to Curtis' Catalogue of Indigenous and Naturalized Plants of North Carolina—Flowering Plants," by M. E. Hyams; "Some Attempts at Forming Heptylbenzol," by Prof. F. P. Venable ; "Attempts to form a Mercurous Hypophosphite," by E. A. de Schweinitz ; "Distribution and Character of the Eocene Deposits in Eastern North Carolina," by Prof. W. C. Kerr ; "Ammonia in Saliva," by Max Jackson ; "Notes on the Geology of the Region About Tampa, Florida," by Prof. W. C. Kerr ; "Solubility of Barium Chromate," by J. F. Wilkes ; "Taxodium (Cypress) in North Carolina Quarternary," by Prof. Jos. A. Holmes ; "Analysis of Kaolin," by J. H. Manning ; "The Twisting of Trees," by Prof. Jos. A. Holmes ; "A Sport in the Leaf of Blephilia Ciliata, Raf.," by M. E. Hyams ; "Analysis of Specular Iron Ore," by J. H. Manning ; "Analysis of Red Hematite," by A. E. Wilson.

There is a short sketch of the life of Prof. W. C. Kerr, the second President of the Society, and we trust that the same loving pen may be engaged to give more elaborately the course of a scientific career which has shed lustre upon the State.

We are highly gratified to see that the Society secured such an excellent steel portrait of the late Rev. Dr. Curtis. It is admirably done, and will be a lasting memorial for one whose scientific fame is hardly at its zenith.

### DRUGS AND MEDICINES OF NORTH AMERICA.

The seventh quarterly installment of this serial comes again to our table, completing the article on *Coptis trifolia* (Golden thread); *Aquilegia canadensis* (Columbine) and *Delphinium* (Larkspur) are introduced to complete the botanical series, but not because of noted medicinal qualities. The different species of Aconitum—A. uncinatum and A. Fischeri—are next considered and illustrated with good wood-cuts. *Actea alba* and *A. spicata* concludes the plants described.

This beautiful work pursues its slow way along, taking up plants many times of very slight medicinal worth, but always doing thoroughly what it undertakes. The typographical execution of the work is all that can be desired, but its extent may be estimated by the fact that the seventh number still continues the "Ranunculaceæ." No such work has ever been undertaken in this country, and the price—$1.00 a year—is a very small sum for so much valuable matter.

A TEXT-BOOK OF NURSING. For the Use of Training Schools, Families and Private Students. Compiled by CLARA S. WEEKS, New York: D. Appleton & Co., 1885.

The need of a book of reference and text-book for the nurses, covering more ground than the excellent "Notes" of Florence Nightingale, has been felt by the numerous nurses who are training for their business, and in this volume we have a good example of a carefully compiled work for this purpose. We believe nurses are less meddlesome, and obstruct less the course of treatment just in proportion to the amount of real knowledge they possess. The actual amount a woman should know to enable her to be capable as a nurse, and prevent her from instituting treatment on her own responsibility has not been marked out, but that such a book as this is needed shows how ambitious the new generation of nurses has become. We can recommend this work to those interested.

LEONARD'S PHYSICIAN'S POCKET DAY-BOOK. Bound in Red Morocco, with Flap, Pocket and Pencil Loop. Price, Postpaid, $1.00. Published Annually by the *Illustrated Medical Journal* Co., Detroit, Michigan.

This popular day-book is now in its ninth year of publication. It is good for *thirteen* months, from the first of any month that it may be begun, and accommdates daily charges for fifty patients, besides having cash department and complete obstetric records. There are also columns for the diagnosis of the case, or for brief record of the treatment adopted, following each name-space. Name of patient. needs to be written but three times in a month. The book is seven and one-half inches in length, and is three and one-half inches wide, so that it will carry bill-heads or currency bills without folding. It is bound in flexible covers and weighs but five ounces, so that it is easily carried in the pocket.

INEBRIISM A PATHOLOGICAL AND PSYCHOLOGICAL STUDY. By T. L. WRIGHT, M.D., Columbus, O. 1885. William E. Hubbard, Columbus.

The author has given us a very thoughtful work on the complex subject of *inebriism,* as he terms it. He does not believe that the evil can be successfully attacked from a moral and religious standpoint and treated merely as a sin, only to be overcome by Divine grace; nor can it be treated as a *crime* and controlled by legal enactment. How medical skill can aid both the gospel and the law is set forth in a good, strong light. The description of the effects of alcohol is well prepared, and the moral tone which pervades the book is healthful. It is really gratifying to read a book on a subject which has called forth more clap-trap moralizing than most any other, but full of good common-sense, without a particle of the temperance lecturer's declamation.

A MANUAL OF WEIGHTS, MEASURES AND SPECIFIC GRAVITY. Including Principles of Meteorology; the Weights and Measures now in Use; Weight and Volume and their Reciprocal Relations; Weighing and Measuring; Balances (Scales) and Weights; Measures of Capacity; Specific Weight and Specific Volume and their Determination and Practical Applications, with Rules and Tables. By OSCAR OLDBERG, Ph.D. Chicago: Published by the Author, 1885.

Prof. Oldberg has long been known as a very skilful teacher of pharmacy and as a warm advocate of the metric system. As Medical Purveyor in the Marine Hospital Service, he was very diligent in propagating practical knowledge of the system to medicine and pharmacy. He states in this volume that his views have materially changed during the last year. He has been convinced that the weights and measures of the metric system are not best for use in practical medicine and pharmacy. * * * "Another grave objection to the use of the decimal system in medicine and pharmacy is to be found in the fact, brought to our attention by fatal results, that the safety of human life ought not to be allowed to depend in any degree on a decimal point, which may be misplaced, misunderstood, omitted or illegible. We are pleased to see the candor of the author, even at this late day, set substantially forth in a valuable and complete treatise on the subject of Weights and Measures.

RATIONALISM IN MEDICAL TREATMENT or the Restoration of Chemism the System of the Future. By WM. THORNTON. Boston: 1885.

What a pity to waste such beautiful, clear type and fine paper upon a wild goose chase!

# CURRENT LITERATURE.

## ABDOMINAL TAXIS FOR THE OBSTRUCTION OF THE BOWELS.

In the first of a proposed series of lectures upon the treatment of cases of obstruction of the bowels, Mr. Jonathan Hutchinson (*Medical Press and Circular*, October 7) advises a method of treatment which he described in a paper written a good many years ago as "abdominal taxis." This term was employed in order to distinguish it from taxis in hernia, and was intended to be applicable to certain manipulations used for the reduction of strangulated hernia within the cavity of the abdomen. Essentially differing from the conclusions of Mr. Treves at the recent session of the British Medical Association, who, in cases of acute obstruction, advocated absolute rest, and, if the symptoms do not promptly yield, early laparotomy, Mr. Hutchinson, in dealing with acute intra-abdominal obstruction of the bowel, recommends the following course: "First, the patient shall be placed in a state of anæsthesia to a full extent of insensibility, so that the abdominal muscles are all fully relaxed; then the surgeon is to manipulate the abdomen, pushing the intestines backwards and forwards vigorously as a mass; then he is to shake his patient after several strong assistants lift the patient, and shake the patient vigorously from side to side, and backwards and forwards; then he is to be held in the inverted position and vigorously shaken, so as to allow of any coil of intestine which may have been twisted having a chance of slipping back again. There are various other little details: for instance, he should be placed upon his back with his feet on the bed, and shaken. Lastly, in these altered positions he is to have enemata given him, copious enemata, and this especially while he is inverted."

This appears like vigorous treatment—certainly one which requires discrimination in the selection of cases. It is recommended in all cases of obstruction "in which no hernia can be discovered, and where no diagnosis can be made, such as of intussusception," and where no more special mode of dealing with the cause of the obstruction can be adopted, and may be repeated daily until the patient is relieved or he passes into a condition where it is obviously useless. Full doses of belladonna are of great assistance, and in a good many cases a laxative may be judiciously used, such as Epsom salts in very small doses repeated every two or three hours.

The taxis should be resorted to, in Mr. Hutchinson's opinion, in every case of abdominal obstruction directly after it passes the limits of mere constipation and as soon as it has been made certain that the obstruction is not low down or owing to hernia. The patient should abstain from food, should receive rectal nutritive enemata, and be kept under the influence of belladonna and opium. Several successful cases are reported by the lecturer, one of which was relieved only after being tossed in the air upon a sheet, and afterwards stood upon his head while an enema was administered.

In elderly persons, where the site of the stricture is thought to be in the colon itself, and probably malignant, lumbar colotomy is preferred to abdominal section. Where intussusception has been diagnosticated, laparotomy is advised; but the eminent lecturer thinks that the exploratory operation merely for diagnostic purposes, ought never to be done. By this practice he believes lives have been sacrificed which might have been saved, and he accordingly enters a protest against early or exploratory laparotomy. In recording this opinion, however, he states that it is one which he holds subject to recantation in future years: in the further advance in surgery it may be found to be bad advice. There are some who may feel inclined to make this criticism now; but the experience and deliberate judgment of such an authority as Mr. Hutchinson are certainly entitled to most respectful consideration.—*Medical Times.*

[Note.—Dr. W. G. Thomas, of Wilmington, has since 1859, or before that date, practiced taxis and position under chloroform, and large enemata, with success. In 1865 he demonstrated the fact that fluid could be pumped through the ileo-cæcal valve under chloroform by elevating the hips very high. We have seen the fluid gush from the mouth in intermittent jets, from a patient who was being treated in this manner for intestinal obstruction.—Ed.]

# WHAT BECOMES OF MEDICAL STUDENTS?

This question, which is annually asked when our various medical colleges turn out their hosts of graduates, is answered in the *Brit. Med. Jour.*, June 20, 1885, by Sir James Paget, who has carefully traced out the career of one thousand students at St. Bartholomew's Hospital. Out of these twenty-three achieved distinguished success, holding good appointments or lucrative practices in good districts, or gaining more than ordinary esteem and influence in society. Five hundred and seven, or rather more than half, attained fair succes, being able to live by their profession or to gain promotion in ordinary appointments, maintaining in all cases a good reputation. One hundred and twenty-four had very limited success, not having made a fair practice within fifteen years after entering the profession, or appearing likely to do so, or were only just making an uncertain livelihood, or were still employed as assistants in ordinary practices, or were erratic, or doing much less than had been expected of them. Fifty-six "failed entirely." Sixteen of these ill-fated men did not get on in life, though no reason could be assigned to account for their failure, and ten failed through ill-health or some distinct misadventure. Ten were habitually irregular in their habits, and five failed because of scandalous misconduct. Fifteen were never able to pass examinations, "some because of idleness and listlessness, a very few through sheer want of intellect.' Ninety-six, or nearly ten per cent., left the profession after beginning either its study or its practice; in the same space of time only seven entered the hospital after abandoning other studies or callings, and five of the seven again changed their minds. This is a tolerably clear proof that medicine is not a profession to adopt as a change or last resource, a fact that certainly does not apply to several other vocations.

Of the ninety-six three were wisely removed from their hospital studies by their friends, and thirteen left pupilage of their own accord or were expelled. Two retired through acquiring means which put them in a position to dispense with work of any kind; four, after beginning practice, had to leave in disgrace; three took to the stage, one with success; four gained commissions in the army; three enlisted, one winning a commission; one successfully took to the bar; seven took holy orders; twenty went into business; nine became farmers; three homœmopaths (all unsuccessfully); whilst twenty-four left the profession for various other pursuits. Eighty-seven died after beginning practice, twenty-one of diseases incurred in their duties, five by suicide, and one "judicially," attaining, nearly thirty years since, a terrible notoriety by his crimes. The remainder died of various diseases, when either prosperous or otherwise. Forty-one died when students, seventeen of phthisis, four (at least) of fever caught in the hospital, whilst two committed suicide.

From these statistics we may glean just what might have been expected through guessing, namely, that a large proportion of those who enter the practice of the profession manage to make a little money, or, at least, to pay their way; that a very select few achieve fame (and still fewer fortune); that a few, not many, render themselves infamous, and that a considerable proportion become the victims of casualties.—*Med. and Surg. Rep.*

CAUGHT BY A BACILLUS.—In a review of "Lusk's Science and Art of Midwifery," we were caught by a trap set by the artful author, who used the obsolescent word *bacillus* to mean a bougie or suppository, while the thoughts of the reviewer were running entirely upon the omnipresent bacillus, the renowned member of the schizophyte family. Although reviewers are supposed to know everything, there is nothing they know which they more heartily dislike than confessing ignorance and blunders, without, perhaps, it may be, having the *rod* used upon them.

PORTRAIT OF REV. DR. MOSES A. CURTIS.—An excellent *proof impression* of the portrait of Dr. Curtis, printed on plate paper for framing, can be obtained by remitting 50 cents to Prof. F. P. Venable, Chapel Hill, or directly to the NORTH CAROLINA MEDICAL JOURNAL.

# THE CURE OF ANGINA PECTORIS.

In the *Bulletin Général de Therapeutique*, for September 30th, Huchard has an important communication on this subject. In the first place, he distinguishes most carefully the pseudo-anginal attack from the true, and his remarks upon treatment apply to the latter alone. He regards the disease as an affection of the arteries of the heart, and not a cardiac neurosis, and quotes numerous facts in support of his position. As adherents to this view he claims Germain Sée, Potain and others, and even Lancereaux, who formerly regarded it as a neurosis. Perhaps the majority of writers on the subject are of the opinion, which has had numerous supporters since the days of Edward Jenner, that the actual lesion of the disease is in the coronary arteries.

An arterial malady must be met by arterial medication, and as the blood-pressure is always increased in the affection, all remedies which heighten the vascular tension must be avoided, as ergot and digitalis. He refers to a curious observation of Wesley Mills, in which anginal attacks followed the local application of ergot. For the relief of the paroxysms, we have at our command amyl nitrite and nitro-glycerine, which cause vaso-dilatation, lowering of the blood-pressure, and increase in the vigor and frequency of the heart-beats. They relieve the angina alone, and are in no way curative, But Huchard believes that the iodides possess the means of so modifying the arterial condition, that a positive cure may be effected. In 1883 he reported six cases which had been greatly benefited by their use, and since then he has had twenty-five patients under his care, of whom fifteen have recovered completely, six have been much improved, and in four cases the effect of the treatment was negative. The possibility of any of these being pseudo-anginal cases was carefully excluded. This brilliant result he attributes in a great part to the action of the iodides on the sclerosed coats of the vessels. The chief element in success is perseverance in the treatment for many months, at least fifteen to eighteen; from fifteen to forty-five grains of the salt are taken daily, until some months have elapsed from the last attack. The administration of the drug may be kept up for as long as three years, to insure durable and certain recovery. He prefers the iodide of sodium for prolonged use, as the potassium salt, when employed for many months, has a weakening effect upon the heart; moreover, it is better borne and more readily assimilated.

Details are given of six cases, in which the results of the treatment, as narrated, are truly remarkable, and certainly justify the prolonged trial of the remedy in this terrible affection. The usual care must, of course, be exercised in these cases to regulate the diet, and remove all sources of mental worry and disturbance. The four cases of failure show that the remedy is not always curative, but in such instances the arteries may be in a state of calcification and past medication.—*Medical News.*

## THE SANITARY EXAMINATION OF POTABLE WATER.

While the determination whether a sample of water does or does not contain poisonous substances of a mineral nature, is not a matter of difficulty, the classification of a water as safe, suspicious or bad, so far as its organic constituents are concerned, can, in the present state of science, only be inferred from the results of examination by several methods. Unfortunately, these methods require great nicety of manipulation and considerable skill, so that they can only be undertaken in a well-appointed laboratory.

The facts to which most importance seems to be attached are—the quantities of organic carbon and nitrogen present in the dry residue of the water, the proportion of ammonia that can be obtained from the water, the amount of potassium permanganate required to oxidize the organic matter, and the quantities of nitrites and nitrates present.

Recent reports on water-analysis point to the mere presence of nitrites as particularly suspicious; and, although a physician can rarely undertake a thorough analysis of water, there are methods by which the presence of nitrites may be quickly detected with certainty. One of these methods consists in adding to about four fluidounces of the water to be examined a few drops of pure hydrochloric acid, then about half a fluidrachm of a solution of sulphanilic acid, and the same quantity of a solution of hydrochlorate of naphthylamine. The presence of nitrites is betrayed by a rosy or red color, which is developed in about twenty minutes, and the reaction will detect one part of nitrous acid in more than a thousand million parts of water. The other test is metaphenylene diamine, which produces a yellow color when added to water containing nitrites and acidulated with sulphuric acid. The first test is the more satisfactory; but it is important that the acids used in each be perfectly pure.—*Medical Times.*

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**URTICA DIOICA (STINGING NETTLE) AS A HÆMOSTATIC.**—Dr. C. J. Rothe ("Pharmac. Past; *Therapeutic Gazette; N. Y. Med. Jour.*) has experimented with the juice of the stinging nettle as a hæmostatic. The leaves, flowers and stalks of the young plant, gathered in the spring, are cut up fine, soaked for a week in 60 per cent. alcohol, and subjected to pressure. The liquid is filtered, when it is of a dark greenish-brown color, and has a spicy odor and taste. Applied on cotton, it rapidly arrests capillary hæmorrhage, and the clots formed are soft and tenacious.

Porcher quotes in *Resources of Southern Fields and Forests* items which show the nettle had some reputation a century ago. Stearns, in the *American Herbal* (1801) refers to its use in jaundice, nephritic disorders, and in hæmorrhage: "The juice snuffed up the nose stops bleeding, and a leaf on the tongue, and pressed against the roof of the mouth, will answer the same purpose. Linnæus, in his Veg. Materia Medica, alludes to its employment in hæmorrhage; it was considered lithontripic and emmenagogue, and adapted to those in whom the hæmorrhagic diathesis prevailed; all of which opinions I quote, says Dr. Porcher, as coming from old authors.

Also the same author gives some items of interest about another nettle—*Urtica urens* (Dwarf nettle): "In the supplement to the supplement to the Dict. de Nat. Med., by Merat & de Lens, 1846, we have an account of the remarkable hæmostatic virtues of this and the U. dioica, also found in S. C. [Found everywhere.] It had originally obtained some favor in this respect, and was used by

Sydenham, but had for a long time fallen into disrepute. It has been reserved for M. Guinestet to restore the public confidence in it. * * * He advises it in hæmorrhage in which bleeding was instantly arrested; two to four ounces of the juice were given, taken internally and in the form of an injection. It has also been successfully employed in spitting of blood and epistaxis, and cases of two months duration were cured." (See Porcher's *Southern Fields and Forests*, Charleston edition, 1869, p. 308–309 for other evidence, especially experiments in the coagulation of blood.)

# JAUNDICE AND PAIN IN BILIARY COLIC.

Mr. Lawson Tait, in the *Lancet*, July, 1885, offers some suggestions as to the reason why, during the passage of gall-stones, there is frequently no jaundice. In fifteen cases of cholecystotomy there has been no history of jaundice, either in the skin or in the urine, during and after the passage of gall-stones, is of extreme rarity, and not, as has been believed, common. Mr. Tait believes that the explanation of this fact lies in the following anatomical conditions of the cystic and common ducts. The common duct is not so long (3 inches) as most text-books assert, and is much less rigid and more easily dilatable than the cystic duct, which is larger than as usually described, namely, one inch. Hence, we can understand how a stone, if not of very great size, will cause intolerable agony while passing through the unyielding cystic duct, and with a trace of jaundice ensuing, the gall-bladder alone being its propellent force; but the moment it enters the common duct the extending impulse will be increased by the influence of the whole excreting force of the liver, so that its passage through the common duct is more rapid. The chief symptom, then, that of pain, is due to the slow passage of the calculus through the unyielding cystic duct, whilst its rapid passage through the easily distended and much larger common duct gives no time, in the majority of instances, for the production of jaundice, which only takes place after long-continued obstruction of this, the common, duct.—*Boston Medical and Surgical Journal.*

## READING NOTICES.

Mr. Chamberlain:—Dear Sir:—Your Patent Water Closet Seat has been used in my family with decided success.

Yours respectfully,

W. M. PIPPEN.

——(o)——

J. L. Grant, M.D., of Carrollton, Mo., states: "Wishing to be of benefit to any poor sufferer with Asthma, I will say that my wife is subject to Asthma and has been for years. She had a severe headache during one of her spells, and I gave her a dose of Tongaline, which relieved her of the Asthma. I have tried Tongaline with her several times since when she was suffering, and in every instance the Asthma was checked. I recommended it to Mr. Jos. Black, a young gentleman of our town, and he says it relieved him every time taken. I know you do not recommend it for Asthma, but I can safely do so."

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### Cases Treated with Pinus Canadensis.

1st. Mrs. J. D., mother of three children, had ulceration of cervix, also severe vaginitis. I applied Kennedy's Pinus Canadensis, using a small glass syringe. In a short time she was entirely well.

2d. Mrs. B. N., mother of two children. Vaginitis was very severe, also two very bad ulcers on cervix; had been under treatment with three other doctors for two and a half months; applied for treatment June 1st, visited her, found her in a precarious condition, I applied Pinus Canadensis twice daily; visited her again June 10th; much improved; June 18th entirely well. Charged him $21 and got the praise of predominating over three old M.D's.

I can't practice my profession without Pinus Canadensis.

3d. Miss B., age 14, had necrosis of tibea. I applied Pinus, also gave her a tonic—treatment entirely cured her.

Yours truly,

W. R. PENNINGTON, M.D.

Sweet Home, Mo., July 31, 1885.

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